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Geological Services

Mineral Deposit Series Report No. 25

Mineral Deposits and Occurrences in the Wimapedi Lake Area, NTS 63O/4

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TABLE OF CONTENTS

Page

INTRODUCTION 1
Methodology 1
Format of Mineral Deposit Maps 1
Format of Mineral Deposit Reports 2
Abbreviations 3
Acknowledgements 3
GEOLOGY OF AREA 63O/4 5
SELECTED REFERENCES 8
MINERAL DEPOSITS AND OCCURRENCES:WIMAPEDI LAKE AREA (63O/4) 9
Location 1 9
Location 2 15
Location 3 21
Location 4 26
Location 5 29
Location 6 31
Location 7 33
Location 8 37
Location 9 39
Location 10 41
Location 11 42
Location 12 43
Location 13 45
Location 14 49
Location 15 53
Location 16 55
Location 17 57
Location 18 59
Location 19 63
Location 20 65
Location 21 67
Location 22 69
Location 23 73
Location 24 75
Location 25 77
Location 26 79
Location 27 81
Location 28 83
Location 29 87
Location 30 89
Location 31 Northeast Herblet Lake 91
Location 32 Bee 1, 4, Bee Zone 93
Location 33 99
Location 34 101
Location 35 103
Location 36 105
Location 37 107
Location 38 111
Location 39 113
Location 40 114

Page
Location 41 115
Location 42 117
Location 43 119
Location 44 120
Location 45 121
Location 46 123
APPENDIX I: Multi-element geochemical analyses 125

FIGURES

Figure 1: Location of mineral deposits and occurrences (63O/4) vi
Figure 2: General geology of the Herblet Lake Gneiss Dome Complex 4
Figure 1-1: Geological setting of occurrences 1, 2 and 3 10
Figure 1-2: Geology and sample location map, site 1, occurrence 1 11
Figure 1-3: Geology map, site 2, occurrence 1 11
Figure 1-4: Geology map, site 3, occurrence 1 12
Figure 1-5: Geology and sample location map, site 4, occurrence 1 13
Figure 1-6: Geology and sample location map, site 5, occurrence 1 13
Figure 1-7: Geology and sample location map, site 6, occurrence 1 14
Figure 1-8: Geology and sample location map, site 7, occurrence 1 14
Figure 2-1: Geological setting and site location map, occurrence 2 16
Figure 2-2: Geology and sample location map, site 1, occurrence 2 17
Figure 2-3: Geology map, site 2, occurrence 2 17
Figure 2-4: Geology and sample location map, site 3, occurrence 2 18
Figure 2-5: Geology map, site 4, occurrence 2 19
Figure 2-6: Geology map, site 5, occurrence 2 19
Figure 2-7: Geology map, site 6, occurrence 2 20
Figure 2-8: Geology map, site 7, occurrence 2 20
Figure 3-1: Geology map, occurrence 3 22
Figure 3-2: Geological section looking east and sample location map, occurrence 3 23
Figure 3-3: Geology of exposure 30 m east of area shown in Figure 2-3, occurrence 3 24
Figure 3-4: Distribution of alteration types in area shown in Figure 3-3, occurrence 3 25
Figure 4-1: Geological setting of occurrence 4, 5 and 6 27
Figure 4-2: Geology and sample location map, occurrence 4 28
Figure 5-1: Geology and sample location map, occurrence 5 30
Figure 6-1: Geology map, occurrence 6 32
Figure 7-1: Geological setting of occurrences 7, 8 and 9 34
Figure 7-2: Geology map, occurrence 7 35
Figure 8-1: Geology and sample location map, occurrence 8 36
Figure 9-1: Geology and sample location map, occurrence 9 38
Figure 10-1: Geological setting of occurrences 10, 11 and 12 40
Figure 12-1: Geology and sample location map, occurrence 12 44
Figure 13-1: Geological setting of occurrences 13, 14 and 15 46
Figure 13-2: Geology and sample location map, occurrence 13 47
Figure 14-1: Index map for occurrence 14 48
Figure 14-2: Geology and sample location map, island, occurrence 14 50
Figure 14-3: Geology and sample location map, mainland, occurrence 14 51
Figure 15-1: Geology and sample location map, occurrence 15 52
Figure 16-1: Geological setting of occurrences 16, 17 and 18 54
Figure 16-2: Geology and sample location map, occurrence 16 56
Figure 17-1: Geology and sample location map, occurrence 17 58

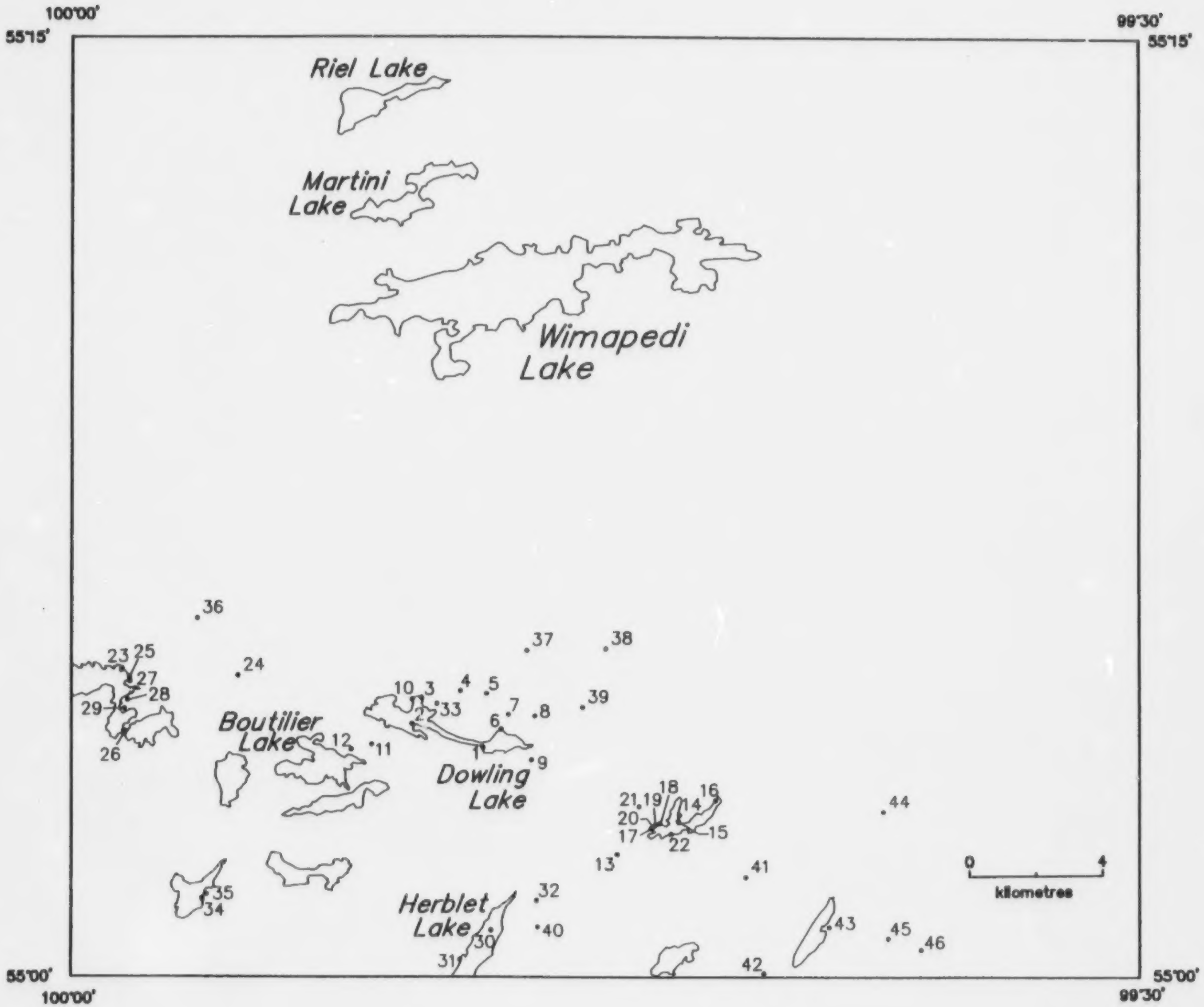
Page
Figure 18-1: Geology and sample location map, occurrence 18 60
Figure 18-2: Geology map of part of occurrence 18 61
Figure 19-1: Geological setting of occurrences 19, 20 and 21 62
Figure 19-2: Geology and sample location map, occurrence 19 64
Figure 20-1: Geology and sample location map, occurrence 20 66
Figure 21-1: Geology and sample location map, occurrence 21 68
Figure 22-1: Geological setting of occurrence 22 70
Figure 22-2: Geology and sample location map, occurrence 22 71
Figure 23-1: Geological setting, ground EM geophysical conductors, and diamond drill hole locations, occurrences 23 and 24 72
Figure 23-2: Geology and sample location map, occurrence 23 74
Figure 25-1: Geological setting of occurrences 25, 26 and 27 76
Figure 25-2: Geology and sample location map, occurrence 25 78
Figure 26-1: Geology and sample location map, occurrence 26 80
Figure 27-1: Geology and sample location map, occurrence 27 82
Figure 28-1: Geological setting of occurrences 28 and 29 84
Figure 28-2: Geology and sample location map, occurrence 28 85
Figure 29-1: Geology and sample location map, occurrence 29 86
Figure 30-1: Geological setting, ground EM geophysical conductors, and diamond drill hole locations, occurrences 30, 31 and 32 88
Figure 30-2: Geology and sample location map, occurrence 30 90
Figure 31-1: Outcrop, geology and trench and sample location map, occurrence 31 92
Figure 32-1: Location map for the Bee Zone, occurrence 32 94
Figure 32-2: Detailed geology in the area of the trenches, occurrence 32 95
Figure 32-3: Geological cross section through the Bee Zone, occurrence 32 96
Figure 32-4: Sample locations in trench 2, Bee Zone, occurrence 32 97
Figure 33-1: Geological setting of occurrence 33 98
Figure 33-2: Geology and sample location map, occurrence 33 100
Figure 34-1: Geological setting of occurrences 34 and 35 101
Figure 34-2: Geology and sample location map, occurrence 34 102
Figure 35-1: Geology and sample location map, occurrence 35 104
Figure 36-1: Geological setting, ground EM geophysical conductors, and diamond drill hole locations, occurrence 36 106
Figure 37-1: Geological setting, ground EM geophysical conductors, and diamond drill hole locations, occurrence 37 108
Figure 37-2: Location map for soil geochemical surveys, occurrence 37 110
Figure 39-1: Geological setting, ground EM geophysical conductors, and diamond drill hole locations, occurrence 39 and 40 112
Figure 41-1: Geological setting, ground EM geophysical conductors, and diamond drill hole location, occurrence 41 116
Figure 42-1: Geological setting, ground EM geophysical conductors, and diamond drill hole locations, occurrences 42, 43 and 44 118
Figure 45-1: Geological setting, ground EM geophysical conductors, and diamond drill hole locations, occurrences 45 and 46 122

TABLES

Table 1: Mineral deposit types 2
Table 37-1: Soil geochemical anomaly descriptions, occurrence 37 109

MAP

MDS Map 25: Mineral deposits and occurrences in the Wimapedi Lake (63O/4) area, Manitoba; 1:50 000 in pocket


100°00'
55°15'
99°30'
55°15'
Riel Lake
Martini Lake
Wimapedi Lake
Boutilier Lake
Dowling Lake
Herblet Lake
1
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38
39
40
41
42
43
44
45
46
0
4
kilometres
55°00'
100°00'
55°00'
99°30'

Figure 1: *Location of mineral deposits and occurrences (63O/4).*

INTRODUCTION

This report and accompanying map are part of a Mineral Deposit Series presenting a uniformly organized and up-to-date collation and analysis of information on mineral occurrences in the Province of Manitoba. The series is intended: (1) to provide explorationists with a geoscientific data base that can be used in mineral exploration; and (2) to provide a technical data base for other government users in resource evaluations, formulation of mineral and land use policies and the initiation of regional development programs.

METHODOLOGY

The documentation program was initiated in the main mining districts of the province under the 1984-1989 Canada-Manitoba Mineral Development Agreement. Under this project mineral deposit geologists of the Geological Services Branch have attempted to inspect and evaluate each known mineral occurrence. These site visits ranged from a preliminary half day or less search of an area for old workings, to extensive geological mapping of selected occurrences for a week or more. In addition, for each occurrence the geologists have attempted to synthesize available data from published and unpublished sources. The Manitoba Mineral Inventory Card Index and the cancelled Assessment Files have been used extensively in the preparation of the report. Mineral occurrence documentations representing only cancelled assessment file compilations are identified as such under the heading 'Name'. Information for all other occurrences was acquired primarily by field examination and are commonly supplemented by cancelled assessment file compilations.

Information has been collated and maps prepared with the assistance of junior staff geologists and summer assistants. Senior mineral deposit geologists have provided the deposit classifications and text for the report.

The locations of all mineral deposits and occurrences are presented in Figure 1.

Deposit versus Occurrence

Throughout this report mineralization is referred to as a deposit if tonnage and grade figures are known; all other mineralization is referred to as an occurrence.

Massive Sulphide versus Solid Sulphide

The use of 'massive sulphide' in the geological literature is confusing in that it is not always clear whether the authors are referring to a 'massive sulphide deposit' (cf. Sangster, 1972) or a section of sulphide-rich rock. In this publication 'massive sulphide' will be used in reference to a deposit type, i.e., a volcanogenic massive sulphide deposit type, rather than the nature of the mineralization. A volcanogenic or sedimentogenic massive sulphide deposit can contain a sulphide lens that locally contains as little as 10% sulphide minerals by volume. The alteration zones that are an integral part of many massive sulphide deposits rarely contain more than 50% sulphide minerals. Consequently, the use of 'solid sulphide' for 75%-100% and 'near solid sulphide' for 50%-75% sulphide minerals is adopted in place of the commonly used term 'massive' to describe the textural aspects of a sulphide mineralization.

FORMAT OF MINERAL DEPOSIT MAPS

Location:

One of the incentives spurring the mineral deposit documentation was the absence of accurate location maps for known mineral occurrences. Inaccurate land bases have previously resulted in failure to find old workings, surveys carried out in wrong areas, and even cancellation of intended surveys by explorationists. Consequently, considerable field time has been spent in establishing occurrence locations and attempts have been made to display exact locations both on the map and in the accompanying report.

The location number on the map is a unique reference number that will be used both in the report and the geologists' unpublished data base. These numbers are consecutive within each 1:50 000 NTS map sheet (but not within portions of a map sheet such as Map MDS87-1).

Deposit Types:

In order to maintain a mineral deposit classification, which will be useful to both explorationists and metallogeneticists, a simplified descriptive classification was selected. This classification is based on the use of common deposit types for the classification of both deposits and occurrences. The classification of mineralization is based on the premise that the mineral explorationist requires information on metals and types of mineralization in an area as well as on the economic deposits (past, present and future producers).

All deposits and occurrences are classified according to the Deposit Type classification in Table 1.

The deposit type displayed on the map represents mineralization with the greatest economic potential, for example a disseminated narrow chalcopyrite layer is emphasized rather than a much thicker solid pyrite-graphite layer.

Mineralization:

A symbol is used to denote the percentage and/or type of mineralization present. At some localities more than one type of mineralization is present. The type of mineralization displayed in the symbol represents the mineralization with the greatest economic potential as indicated by the deposit type symbol. It should be noted that in the context of this report a "sulphide facies iron formation" is equivalent to a "sulphide stratum". For a discussion of sulphide stratum the reader is referred to Gale *et al.* (1980).

TABLE 1: MINERAL DEPOSIT TYPES

STRATABOUND MASSIVE SULPHIDE TYPE DEPOSITS
  a) Volcanic rock associated
  b) Sedimentary rock associated
  c) Alteration zone associated with a or b
CHEMICAL SEDIMENT TYPE DEPOSITS
  a) Sulphide facies iron formation
  b) Oxide facies iron formation
  c) Carbonate facies iron formation
  d) Silicate facies iron formation
  e) Other chemical sediments
VEIN TYPE DEPOSITS
  a) Single vein
  b) Multiple veins or lenses
  c) Stockwork
MAGMATOGENIC TYPE DEPOSITS ASSOCIATED WITH MAFIC/ULTRAMAFIC ROCKS
  a) Disseminated
  b) Layered
  c) Net textured
  d) Podiform
DEPOSITS WITH PORPHYRY AFFINITIES
PEGMATITE TYPE DEPOSITS
CLASTIC SEDIMENT TYPE DEPOSITS
REPLACEMENT TYPE DEPOSIT
DISSEMINATED MINERALIZATION-NOT CLASSIFIED

Host Rocks:

In general, this description refers to the immediately underlying and overlying rock types. When a number of rock types are present in an extensive zone of mineralization, the most common rock types are indicated.

Elements:

This description allows for a maximum of three metals present in increasing order of abundance by volume. The precious and base metals are indicated in preference to elements such as iron and carbon.

In some instances it has been more efficient on the map and in the report to make reference to an area of mineralization rather than individual deposits or occurrences. All mineralization in the area delineated by a dotted line on the map is referenced in the report under the location number within that area.

FORMAT OF MINERAL DEPOSIT REPORTS

Location:

Each deposit or occurrence description will contain the unique deposit reference number, deposit or claim name where applicable, UTM coordinates, general area description, the reference number of the airphoto on which the deposit can be located and a brief description of method(s) of access.

Exploration Summary:

This section provides a summary of the extent of exploration. Information for this section was compiled from Mineral Inventory Cards, cancelled Assessment Files, and maps and files from the Mining Recording Office.

Geological Setting:

In this section the general geology of a deposit or occurrence is described. The information levels of the descriptions vary considerably and depend largely upon the extent of geological mapping during the documentation project. For further details the reader should consult the references cited.

Mineralization:

A detailed description of the mineralization provides the reader with the opportunity to make his own evaluation of the significance of a mineral occurrence or deposit.

Geochemical Data:

In addition to detailed geological mapping around individual mineral occurrences, rock samples were routinely collected from outcrops in the vicinity of the occurrences. Multi-element analyses are presented by 66 rock samples collected from mineral occurrences 1 to 35. Details of the sampling and analytical procedures are presented in Appendix I along with multi-element geochemical data.

Classification:

In this section the geologist may indicate the reasons for the classification appearing on the Mineral Deposit Map. For those localities containing more than one deposit type, the deposit types not shown on the map are documented here.

References:

These include both published and unpublished sources. For published and assessment report information the reader should obtain desired material directly from the source. The mineral deposit geologists will endeavour to supply copies of unpublished material on a deposit by deposit basis. References listed at the end of each occurrence description may also include sources of additional information not directly cited in the text.

ABBREVIATIONS

The following abbreviations are used throughout the occurrence descriptions:

A.F.	assessment file
asp	arsenopyrite
CB	claim block
c.g.	coarse grained
cm	centimetre
cp	chalcopyrite
DDH	diamond drill hole(s)
diss.	disseminated
EM	electromagnetic
g/t	grams per tonne
HLEM	horizontal loop electromagnetic
HBED	Hudson Bay Exploration and Development Company Limited
HBMS	Hudson Bay Mining and Smelting Company Limited
km	kilometre
m	metre
oz/ton	ounces per ton
po	pyrrhotite
py	pyrite
t	tonne
tr.	trace
VLF-EM	very low frequency electromagnetic

ACKNOWLEDGMENTS

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1986: Junior Geological Assistant - T. Robbie
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Junior Geological Assistant - A. Lebedynski

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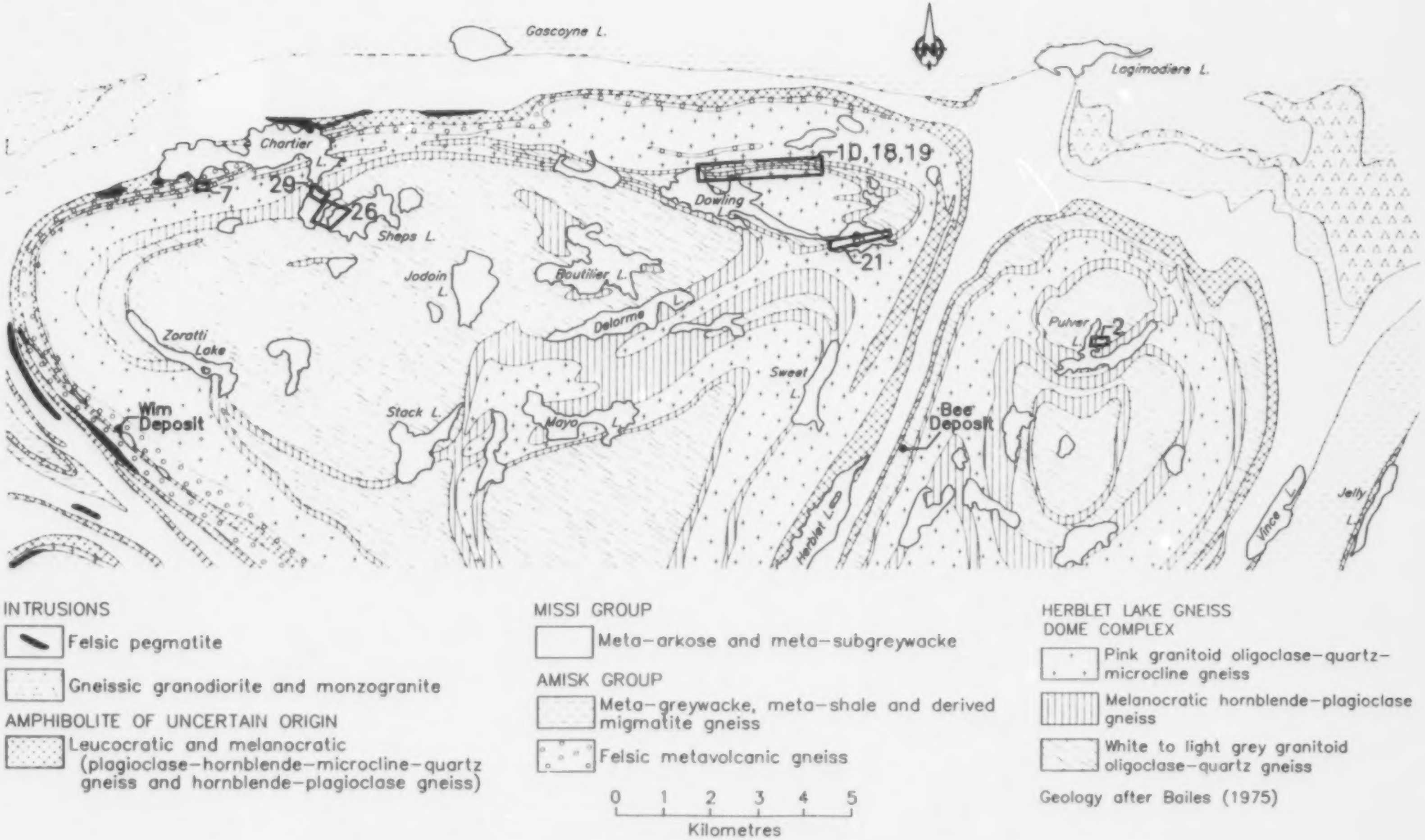
Computing: G. Conley
Typing: S. Weselak
Review: G.H. Gale, W.D. McRitchie
Editing: D.A. Baldwin

NOTE:

This mineral deposit report and the accompanying map are intended to be active documents that can be updated as new information becomes available. Although revisions of the publication are anticipated, any additional unpublished information may be obtained by contacting the authors or the Director, Geological Services Branch.


Gascoyne L.
Lagimodiere L.
Chartier L.
1D,18,19
7
29
26
Sheps L.
Dowling
21
Jodoin L.
Boutilier L.
Delorme L.
Zoratti Lake
Pulver L.
2
Sweet L.
Wim Deposit
Stack L.
Mayo
Bee Deposit
Herblet L.
Vince L.
Jelly L.
INTRUSIONS
Felsic pegmatite
Gneissic granodiorite and monzogranite
AMPHIBOLITE OF UNCERTAIN ORIGIN
Leucocratic and melanocratic (plagioclase–hornblende–microcline–quartz gneiss and hornblende–plagioclase gneiss)
MISSI GROUP
Meta–arkose and meta–subgreywacke
AMISK GROUP
Meta–greywacke, meta–shale and derived migmatite gneiss
Felsic metavolcanic gneiss
0
1
2
3
4
5
Kilometres
HERBLET LAKE GNEISS DOME COMPLEX
Pink granitoid oligoclase–quartz–microcline gneiss
Melanocratic hornblende–plagioclase gneiss
White to light grey granitoid oligoclase–quartz gneiss

Geology after Bailes (1975)

Figure 2: ***General geology of the Herblet Lake Gneiss Dome Complex. Geology modified from Bailes (1975).***

GEOLOGY OF AREA 63O/4

The geological base for mineral deposit map sheet 63O/4 is derived from the 1:50 000 map of Bailes (1975). Rocks in this area have been subdivided into Amisk Group, younger Missi Group, amphibolites of uncertain affinity, the Herblet Lake Gneiss Dome Complex and mafic to felsic intrusive rocks (Fig. 2). Lithologically, the area can be divided into northern and southern portions. The northern two thirds of the area is characterized by Amisk Group grey garnetiferous paragneiss, lit-par-lit gneiss and schlieric gneiss intruded by gneissic granodiorite and monzogranite. The southern one third of the area is lithologically more diverse and is represented by rocks of the Herblet Lake Gneiss Dome Complex. This complex is characterized by a core of texturally diverse white to light grey granitoid oligoclase-quartz gneiss, pink granitoid oligoclase-quartz-microcline gneiss and melanocratic hornblende-plagioclase gneiss. The core gneisses are rimmed by Amisk Group felsic volcanic rocks, and Missi Group arkose, subgreywacke and melanocratic hornblende-plagioclase gneiss. The provenance of the core gneisses is problematic. Fedikow and Malis (1988) and Fedikow *et al.* (1989) noted the similarities of the core gneisses to Amisk Group felsic volcanic rocks in NTS area 63J/13, and subsequently proposed that the "C1" (Bailes, 1975) or white to light grey oligoclase-quartz gneiss may be a coarsely retextured equivalent to the rhyolite mapped along strike to the south by Froese and Moore (1980).

Gordon *et al.* (1990) designate the pink oligoclase-quartz-microcline gneiss as a metamorphosed hornblende-biotite granite based upon igneous zoning in zircons coupled with the slightly rounded nature of zircon terminations. The $^{207}Pb/^{206}Pb$ minimum age of 1873 Ma and a concordia intercept age of 1890 +8/-6 Ma are interpreted to represent the time of igneous crystallization of the pink granitoid gneiss. These ages are similar to the 1886 Ma age of Amisk volcanism from Flin Flon (Gordon *et al.*, 1990). Bailes (1975) suggests that the gneisses of the Herblet Lake Gneiss Dome Complex are of supracrustal origin and were mobilized and emplaced as diapirs during regional metamorphism.

The intrusive rocks in the map area were emplaced during a post-Missi high grade regional metamorphic and deformational event. Syntectonic granodiorite and monzogranite intrusions are representative products of the major intrusive episode during deformation and are believed to have formed, in part, by the anatexis of Amisk Group pelites.

Although Bailes (1975) has documented five post-Missi age episodes of deformation and four episodes of metamorphism, two main structural trends are evident. The northern two thirds of the map area contains rocks characterized by well-developed, east-trending isoclinal folds with steep, north-dipping axial planes. The southern part of the map area comprises complex basin and dome interference fold structures that characterize the Herblet Lake Gneiss Dome Complex (Bailes, 1975). The gneiss domes in the complex are localized along F2 antiforms (Froese and Moore, 1980). Despite the recognition of four metamorphic episodes, a single metamorphic event, concurrent with the main deformational event, has produced widespread recrystallization. During this metamorphic event, Amisk and Missi group rocks and rocks of the Herblet Lake Gneiss Dome Complex were recrystallized to middle and upper almandine-amphibolite facies (Bailes, 1975).

The surface expression of mineralization in map area 63O/4 is characterized by abundant, narrow, sinuous, long and short strike length rusty weathered zones containing 1 to 3 percent pyrite, pyrrhotite and lesser chalcopyrite. These zones are commonly garnetiferous with red garnets ranging from a few millimetres to several centimetres in diameter. Locally, these zones contain up to 10 percent sulphide minerals with abundant white mica (occurrence 20, Pulver Lake). Wallrocks adjacent to mineralized zones are commonly silicified.

A garnet-anthophyllite-cordierite-chalcopyrite-pyrite zone, which is exposed in northwest Dowling Lake (occurrence 10), has been followed to the east as occurrences 3, 4 and 5 for approximately 3 km. This zone, which is erratically to extensively developed, consists of from 3 to 100 percent, 4 to 5 cm^2 radiating clusters of anthophyllite, 5 to 6 cm red garnets, 1 to 2 percent sillimanite, 1 to 5 percent chalcopyrite and less than 1 percent molybdenite in hornblende-plagioclase gneiss. The garnet porphyroblasts are commonly rimmed by, or have cores of, chalcopyrite and minor pyrite. In some outcrops the amphibolite host rocks have been altered to form a discordant quartz-garnet zone. At occurrence 4, pyrite predominates over chalcopyrite in a coarse grained rusty weathered assemblage of garnet-anthophyllite-black biotite-quartz-feldspar within amphibolite gneiss. Occurrence 5 is characterized by a 1 to 3 m wide garnet-cordierite-biotite-anthophyllite alteration zone developed within amphibolite gneiss. Garnet and cordierite porphyroblasts attain maximum diameters of 3 cm. Analysis of representative sulphide-bearing samples from these alteration zones indicates a maximum value of 0.5 percent copper (occurrence 3).

This alteration zone is primarily confined to the hornblende-plagioclase gneiss (unit C2; Bailes, 1975) and is relatively sulphide-poor except for 1 to 1.5 percent chalcopyrite at occurrence 3. This zone is not sheared, although the presence of a strongly silicified outcrop located in a linear east-trending swamp north of occurrence 3 is suggestive of focussed fluid flow producing silicification in an amphibolite gneiss. If the linear topographic depression containing the swamp and the silicified outcrop represents a fault or shear zone, then the alteration zone at occurrence 3 may be a subsidiary *en echelon* shear zone, with the structural fabric obscured by metamorphic recrystallization of altered primary mineralogy. The development of this altered zone in amphibolite gneiss may be related to the differing rheologic characteristics of the sequence at Dowling Lake. The relatively thin amphibolite gneiss at occurrence 3 is flanked to the north and south by a thick sequence of felsic granitoid gneisses; the amphibolite would represent the strain focus and a natural site for focussed fluid flow and alteration. Accordingly, the 0.5 percent copper at occurrence 3 may have been derived from previously deposited mineralization, and subsequently mobilized by metamorphic fluids to the present location.

An alternative hypothesis for the origin of this zone is based on the presence of a proposed rhyolite (Bailes, 1975) centered on Dowling Lake. If the felsic gneisses are volcanic and/or volcaniclastic rocks then the interlayered mineralized and altered amphibolite may represent clastic and/or chemical sedimentary rocks deposited in the volcanic pile. The presence of garnet-anthophyllite-cordierite gneiss is evidence of significant elemental gains and losses accompanying focussed fluid flow within the amphibolite gneiss. Accordingly, the zone at occurrence 3 may represent the fringes of a more extensively and intensively altered and mineralized zone.

Exploration in the 63O/4 map area was primarily conducted by Hudson Bay Exploration and Development Co. Ltd. during the late 1950's and early 1960's. During this period airborne and ground geophysical surveys were undertaken, followed by diamond drilling. This activity resulted in the discovery of the Wim volcanogenic massive sulphide type copper deposit (NTS 63N/1; 989 000 tonnes grading 2.91 percent Cu, 1.78 g/t Au, 8.23 g/t Ag and trace Zn). The host rocks are felsic volcanic gneiss that has been mapped as a persistent rock unit around the rim of the Herblet Lake Gneiss Dome Complex in map area 63O/4. Other conductors were defined within the rhyolite and other rock units, but most of these have been attributed to the presence of disseminated iron sulphides and traces of sphalerite and chalcopyrite in graphitic rocks. One notable exception is a ground EM conductor on the northeast shore of Chartier Lake; it was tested with one drill hole that intersected 1.5 m of 1.5 percent zinc (occurrence 23). Therefore, the rhyolite that occurs around the periphery of the Herblet Lake Gneiss Dome Complex represents a prospective exploration target for base metal massive sulphide deposits.

Additionally, the white to light grey oligoclase-quartz gneiss (unit C1, Bailes, 1975) must also be considered for its potential to host massive sulphide deposits, since these rocks have been correlated to felsic volcanic rocks (unit 1, Bailes, 1975). The C1 units that occupy the core of the Herblet Lake Gneiss Dome Complex are considered to be coarse grained equivalents of finer grained C1 units at Dowling Lake and perhaps unit 1 felsic volcanic gneiss. The C1 oligoclase-quartz gneiss on the western flank of the second, easterly gneiss dome within the Herblet Lake Gneiss Dome Complex hosts the Bee Cu-Zn zone (occurrence 32), a small sub-economic zone of pyrite, pyrrhotite, sphalerite and chalcopyrite hosted by light grey to white oligoclase-quartz gneiss. A 3 m wide and 1600 m long zone of disseminated iron sulphides accompanies the Bee Zone. In outcrop, this zone is characterized by weakly to strongly rusty weathered, garnetiferous alteration. Accordingly, the rusty weathered and garnetiferous zones with minor sulphide mineralization described in C1 gneisses from the Herblet Lake Gneiss Dome Complex must be given consideration as potential exploration targets for base and/or precious metals.

If units C2, C2a, 6a and 6b (Bailes, 1975) can be demonstrated to be wholly or in part mafic volcanic rocks, then the mineral potential of these rocks is confirmed by the presence of a string of vein type and disseminated gold deposits that occur along the eastern flank of the Northeast Arm of Herblet Lake. These occurrences (gold, tungsten and base metals), including the Ferguson gold deposit (occurrence 9, NTS 63J/13; Fedikow, Athayde and Galley, in prep.), indicate mineral potential in the mafic gneisses that rim the gneiss dome.

Long and short strike length ground EM geophysical conductors attributed to the presence of products of chemical sedimentation such as graphite, iron sulphides and trace sphalerite and chalcopyrite in the rocks, have been delineated in the area of disseminated and vein type deposits (occurrence 32). Significant airborne and ground EM geophysical conductors have also been delineated in arkose and greywacke gneisses at or near the contact with garnetiferous greywacke and migmatite gneiss southeast of Pulver Lake near Jelly Lake (occurrence 45).

Within the Herblet Lake Gneiss Dome Complex the pink oligoclase-quartz-microcline gneiss, designated as "C3" by Bailes (1975), contains the least areally extensive zones of alteration and mineralization. The occurrences are generally characterized by 1 percent pyrite in weak shear zones of limited extent, or spatially restricted rusty weathered zones adjacent to white, boudinaged quartz veins. The C3 wallrocks rarely contain visible sulphide minerals.

Mineralization in the Herblet Lake Gneiss Dome Complex consists of volcanogenic base metal massive sulphide deposits and base metal-enriched sulphide facies iron formations associated with felsic volcanic rocks, epiclastic sedimentary rocks and amphibolite gneisses of uncertain origin. These rock types represent the more "traditional" exploration targets for base and precious metal exploration in the Flin Flon-Snow Lake area. Residual exploration potential exists in these rocks since deformation and recrystallization may have disrupted and displaced mineralization from zones of alteration and consequently making routine exploration difficult. Disseminated copper and iron sulphide mineralization occurs in association with fine and coarse grained felsic gneisses and amphibolite of uncertain affinity in the core of the gneiss domes. This style of mineralization accompanied by an alteration assemblage of cordierite-anthophyllite-garnet-sulphide is commonly an integral part of areally extensive alteration zones associated with massive sulphide type deposits in the Snow Lake mining camp. Rusty weathered zones with a few percent sulphide minerals in the "core" gneisses may be compared favourably with the surface expression of alteration related to known Cu-Zn mineralization (Bee Zone) in the gneiss domes.

The presence of areally extensive cordierite-anthophyllite-garnet-sillimanite-sulphide alteration zones (occurrences 3, 4, 5, and 10), some with up to 0.5 percent copper, in the core and rimming gneisses of the domes represents a significant departure from the mineralogies generally found in these rocks. These zones represent the chemical signatures of fluid flow and subsequent recrystallization during almandine-amphibolite facies metamorphism. The general lack of associated sulphide minerals suggests that these zones: (i) may be distal to mineralized sites as a result of deformation; or, (ii) are unrelated to mineralizing events.

Poulsen and Franklin (1981) documented Na_2O, CaO and CO_2 depletion and MgO, K_2O, FeO, Fe_2O_3 and H_2O enrichment in sheared trondjemite in the Sturgeon Lake area of Ontario. This chemical signature in the trondjemite has characteristics similar to those observed in footwall rocks to massive sulphide deposits (Franklin *et al.*, 1975), and to those observed symmetrically about some gold deposits in Red Lake (Hodgson and MacGeehan, 1980) and Timmins (Fryer *et al.*, 1979). In a study examining the chemistry of felsic volcanic rocks associated with mineralization, Sopuck (1977) documents a marked geochemical difference between massive and schistose felsic volcanic rocks in the Confederation Lake area in Ontario. The schistose rhyolites are depleted in Na_2O and CaO and are chloritized with an increase in the MgO content of chlorite relative to massive rhyolite. The schistose rhyolites have "the same type and degree of anomalous chemistry as alteration zones associated with ore". However, the schistose rhyolites are nonmineralized.

Coarse grained assemblages of cordierite-anthophyllite-garnet-sillimanite-sulphide in felsic and mafic gneisses of the Herblet Lake Gneiss Dome Complex represent the signature of chemical transfer effected by fluid flow. The fluids may have been derived from products of magmatic crystallization, seawater or metamorphic pressure solution mechanisms (shear), and may or may not contain base and/or precious metals. The generation of extensive sulphide-poor alteration zones in the Snow Lake area has been attributed to reservoir-type aquifers of regional extent that were responsible for the transportation of metals in solution and their subsequent deposition at a geologically suitable site (Bailes and Galley, 1989; Galley *et al.*, 1990.

A thorough geophysical, geochemical and diamond drilling program is required to ascertain whether or not mineralization is associated with the cordierite-anthophyllite-garnet-sillimanite-sulphide alteration zones represented by occurrences 3, 4, 5 and 10.

SELECTED REFERENCES

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Bailes, A.H. and Galley, A.G.

1989: Geological setting of and hydrothermal alteration below the Chisel Lake massive Zn-Cu sulphide deposit; In Manitoba Energy and Mines, Minerals Division, Report of Field Activities, 1989, p. 31-37.

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1988: Mineral occurrence documentation-Herblet and Pulver gneiss domes and Wekusko Lake area; In Manitoba Energy and Mines, Minerals Division, Report of Field Activities, 1988, p. 84-94.

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Poulsen, K.H. and Franklin, J.M.

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Sopuck, V.J.

1977: A lithogeochemical approach in the search for areas of felsic volcanic rocks associated with mineralization in the Canadian Shield; Queens University, Ph.D. thesis (unpublished), 295p.

MINERAL DEPOSITS AND OCCURRENCES: WIMAPEDI LAKE AREA (63O/4)

LOCATION: 1

NAME:

UTM: 6101678N/448421E

ACCESS: Bush plane to Dowling Lake, boat and traverse.

AREA: Dowling Lake

AIRPHOTO: MB87009-218, MB87012-22

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors, associated with volcanic and sedimentary rocks at the periphery of the Herblet Lake Gneiss Dome Complex, were delineated. A.L. Parres Ltd. staked claims Lym 7, 8, 9 and 10 in 1988. The claims were cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by white to light grey granitoid gneiss, amphibolite gneiss and pink granitoid gneiss. These three lithologic components characterize the Herblet Lake Gneiss Dome Complex in this area (Fig. 1-1; Bailes, 1975). Gneissosities trend east and dip 70° north. The occurrence is exposed on five islands and the east and west shorelines of the eastern end of Dowling Lake. Mineralized grey granitoid gneiss and amphibolite gneiss have been mapped in this area. Figures 1-2 to 1-8 are geology and sample location maps for sites 1 to 7, respectively.

MINERALIZATION:

This rusty weathered mineralized zone is apparently discordant; it crosscuts grey granitoid gneiss and amphibolite gneiss. It ranges in exposed width from approximately 100 m at its eastern extremity to 1 m at the western end; the western part lies under the lake and may be appreciably thicker. Rusty weathered pyritic quartz veins occur within rusty, garnetiferous, magnetite-bearing grey granitoid gneiss. Locally, 2 to 5% disseminated pyrrhotite is accompanied by silicification of the granitoid gneiss. At the western end of the zone, at the lakeshore, disseminated chalcopyrite predominates over pyrrhotite in a silicified zone. Rusty weathered boxwork structures in the mineralized zones indicate that some of the sulphide mineralization has been leached from the rock. The host rocks to the mineralization are more intensely foliated than the surrounding wallrock. This zone may represent a silicified shear zone with accompanying pyrrhotite-chalcopyrite mineralization.

GEOCHEMICAL DATA:

Eight representative outcrop chip samples were collected for multi-element geochemical analysis from the rusty weathered zones (Fig. 1-2 to 1-8). All samples contain low base and precious metals (Appendix I).

CLASSIFICATION:

Disseminated mineralization - not classified. Disseminated pyrite and chalcopyrite associated with *en echelon* linear rusty weathered zones that may represent shear zones.

REFERENCES:

Assessment File 91624

Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.

1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

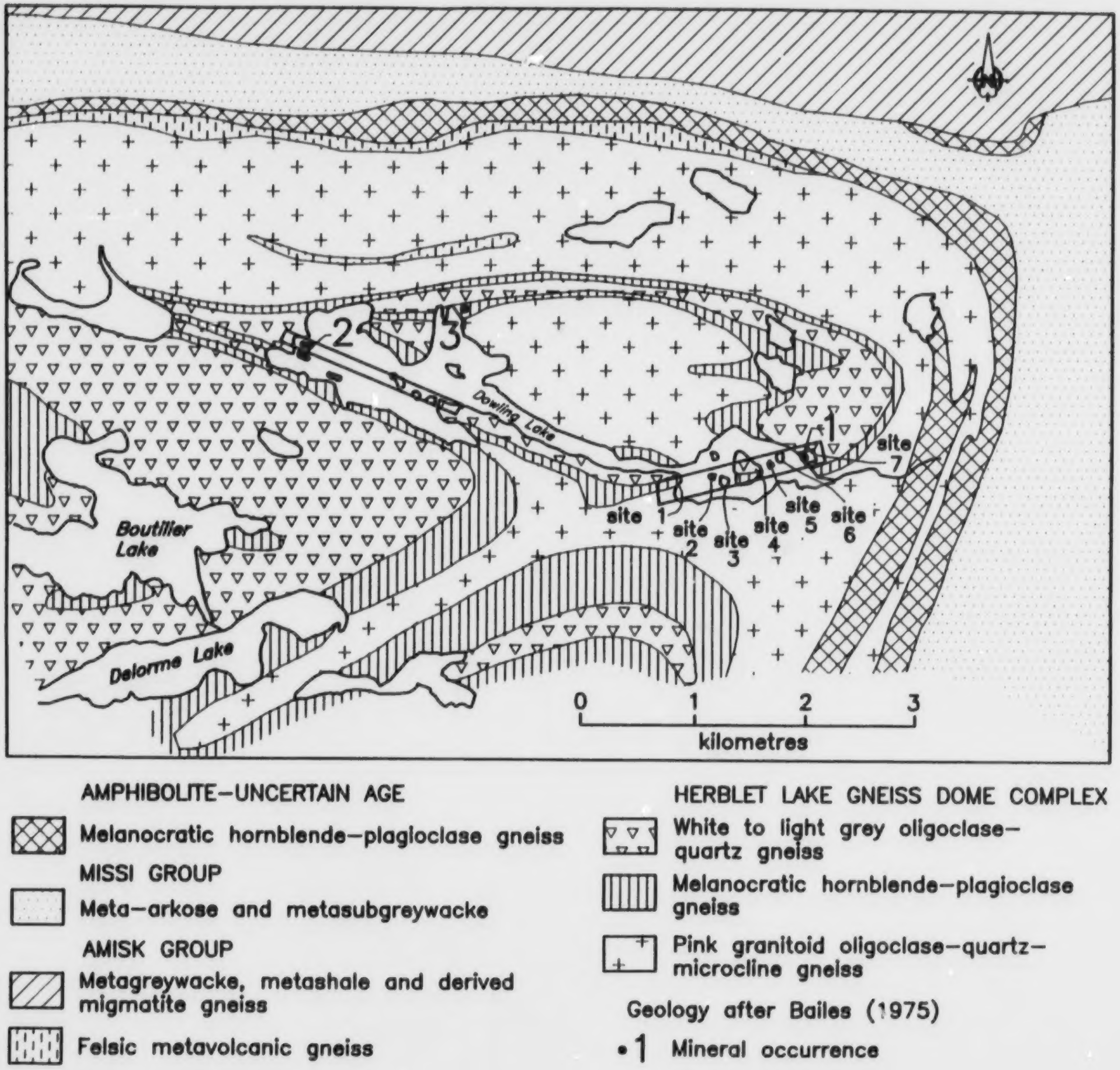

2
3
Dowling Lake
1
site 7
site 1
site 2
site 3
site 4
site 5
site 6
Boutillier Lake
Delorme Lake
0
1
2
3
kilometres
AMPHIBOLITE–UNCERTAIN AGE
Melanocratic hornblende–plagioclase gneiss
MISSI GROUP
Meta–arkose and metasubgreywacke
AMISK GROUP
Metagreywacke, metashale and derived migmatite gneiss
Felsic metavolcanic gneiss
HERBLET LAKE GNEISS DOME COMPLEX
White to light grey oligoclase–quartz gneiss
Melanocratic hornblende–plagioclase gneiss
Pink granitoid oligoclase–quartz–microcline gneiss
Geology after Bailes (1975)
•1 Mineral occurrence

Figure 1-1: Geological setting of occurrences 1, 2 and 3.

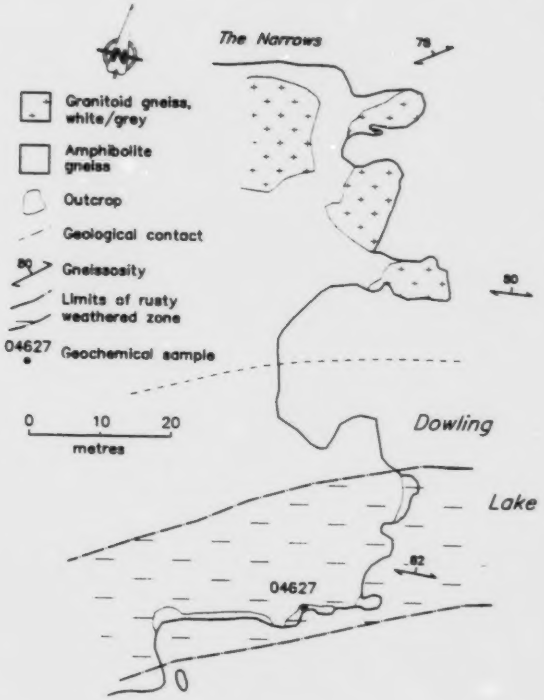

The Narrows
78
Granitoid gneiss, white/grey
Amphibolite gneiss
Outcrop
Geological contact
80 Gneissosity
Limits of rusty weathered zone
04627 Geochemical sample
0 10 20
metres
80
Dowling
Lake
82
04627

Figure 1-2: Geology and sample location map, site 1, occurrence 1.

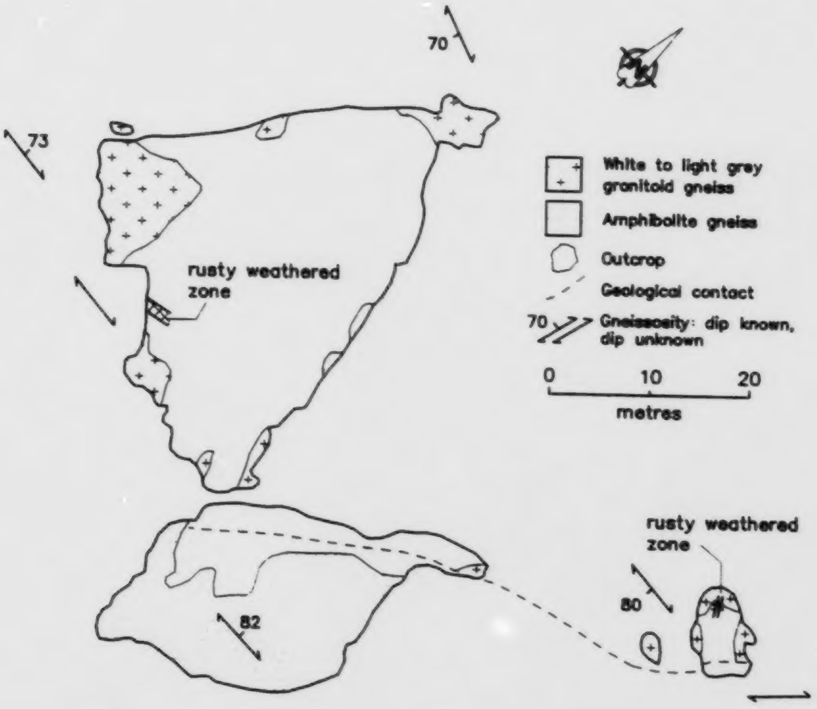

70
73
White to light grey granitoid gneiss
Amphibolite gneiss
Outcrop
Geological contact
70 Gneissosity: dip known, dip unknown
0 10 20
metres
rusty weathered zone
82
80
rusty weathered zone

Figure 1-3: Geology map, site 2, occurrence 1.

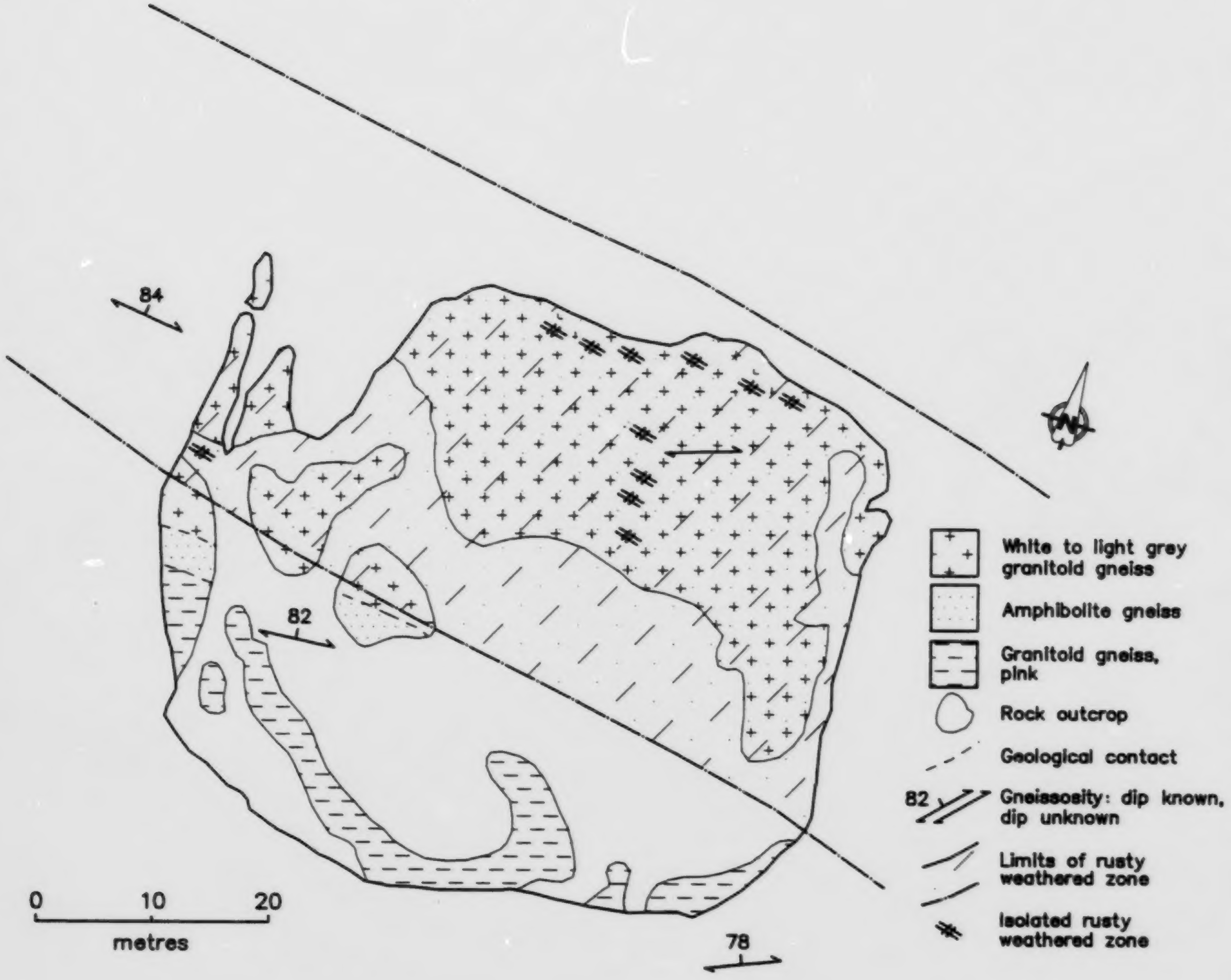

84
82
78
0 10 20
metres
White to light grey granitoid gneiss
Amphibolite gneiss
Granitoid gneiss, pink
Rock outcrop
Geological contact
82
Gneissosity: dip known, dip unknown
Limits of rusty weathered zone
Isolated rusty weathered zone

Figure 1-4: Geology map, site 3, occurrence 1.

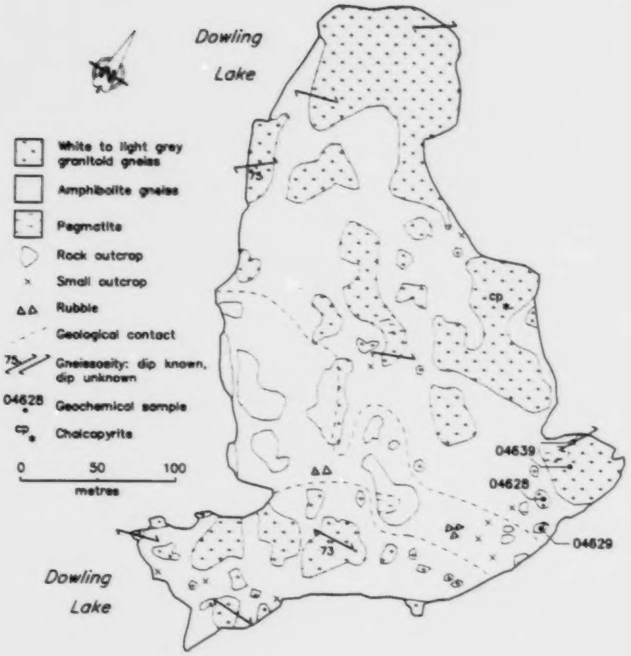

Dowling Lake
White to light grey granitoid gneiss
Amphibolite gneiss
Pegmatite
Rock outcrop
Small outcrop
Rubble
Geological contact
Gneissosity: dip known, dip unknown
04628 Geochemical sample
Chalcopyrite
0 50 100
metres
75
cp
04639
04628
04629
73
Dowling Lake

Figure 1-5: Geology and sample location map, site 4, occurrence 1.

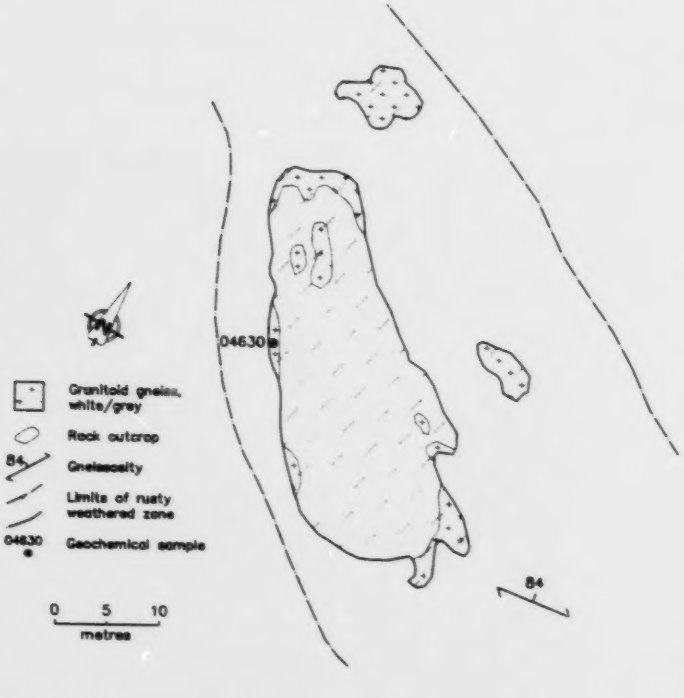

04630
Granitoid gneiss, white/grey
Rock outcrop
84 Gneissosity
Limits of rusty weathered zone
04630 Geochemical sample
0 5 10
metres
84

Figure 1-6: Geology and sample location map, site 5, occurrence 1.

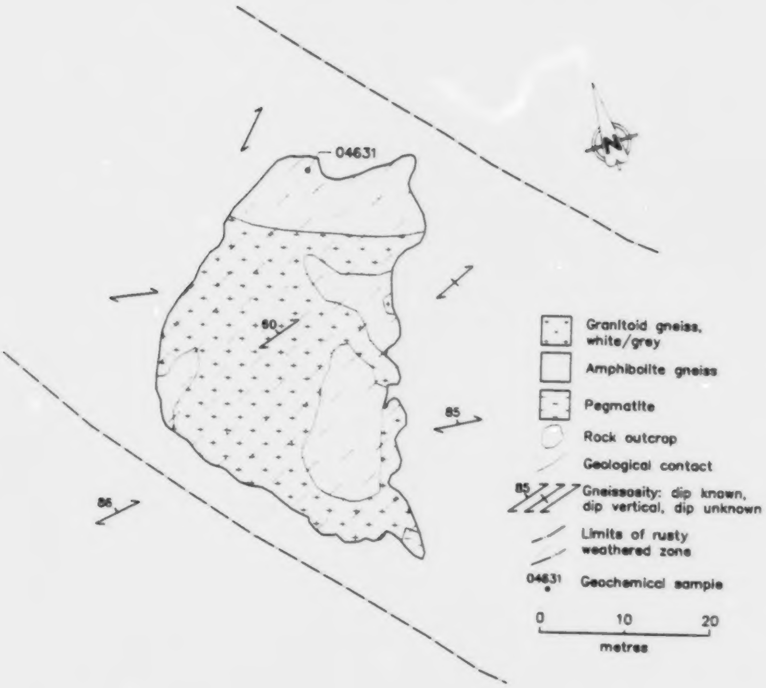

04631
60
85
86
Granitoid gneiss, white/grey
Amphibolite gneiss
Pegmatite
Rock outcrop
Geological contact
85
Gneissosity: dip known, dip vertical, dip unknown
Limits of rusty weathered zone
04631
Geochemical sample
0
10
20
metres

Figure 1-7: *Geology and sample location map, site 6, occurrence 1.*

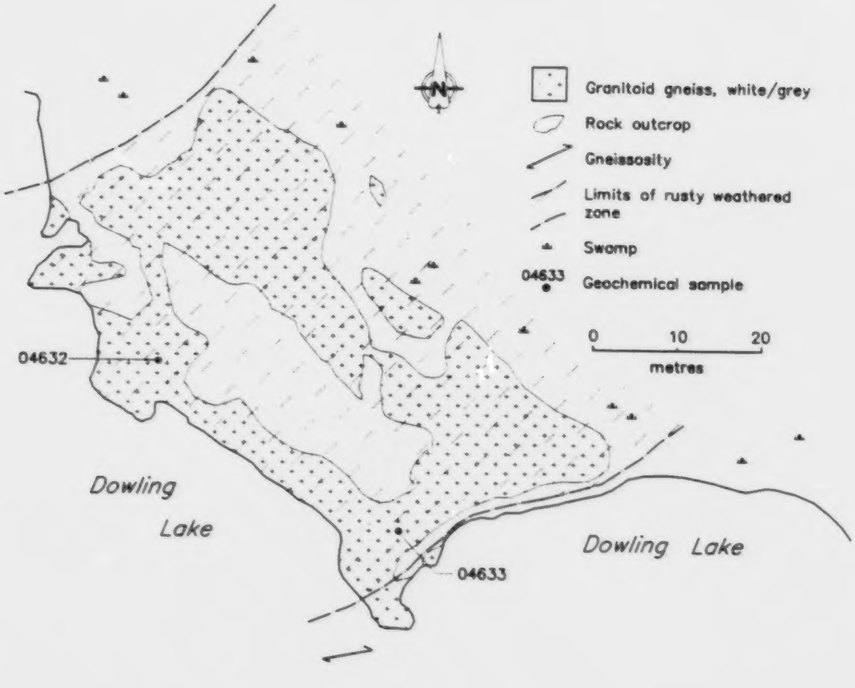

Granitoid gneiss, white/grey
Rock outcrop
Gneissosity
Limits of rusty weathered zone
Swamp
04633
Geochemical sample
0
10
20
metres
04632
Dowling
Lake
Dowling Lake
04633

Figure 1-8: Geology and sample location map, site 7, occurrence 1.

LOCATION: 2

NAME:

UTM: 6102426N/446293E

ACCESS: Bush plane to Dowling Lake, boat and traverse.

AREA: Dowling Lake

AIRPHOTO: MB87009-89, -218

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey multiple long and short strike length conductors were delineated in association with volcanic and sedimentary rocks at the periphery of the Herblet Lake Gneiss Dome Complex. A.L. Parres Ltd. staked claims Lym 6 and Lyp 11 in 1988. The claims were cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by white to light grey granitoid gneiss, amphibolite gneiss and pink granitoid gneiss. These three lithologic components characterize the Herblet Lake Gneiss Dome Complex in this area (Fig. 1-1, 2-1; Bailes, 1975). The occurrence is situated within rusty weathered grey granitoid gneiss exposed on a series of islands and along the shoreline at the west end of Dowling Lake. Geology and sample location maps for sites 1 to 7 are presented in Figures 2-2 to 2-8, respectively.

MINERALIZATION:

The occurrence is characterized by sulphide-poor rusty weathered granitoid gneiss. Disseminated pyrite (5%) occurs within a 1.5 cm wide cherty silicified zone in rusty weathered granitoid gneiss at site 2. Rusty weathered garnet-anthophyllite boulders and float are present at site 3 (Fig. 2-4), but outcrop exposure with this mineral assemblage was not recognized in the area. White and rusty weathered quartz veins without visible sulphides were observed in many outcrops.

GEOCHEMICAL DATA:

One representative outcrop chip sample (04842) was collected for multi-element geochemical analysis. The sample contains low base and precious metals (Appendix I).

CLASSIFICATION:

Disseminated mineralization - not classified. The occurrence may represent a mineralized shear zone in grey granitoid gneiss.

REFERENCES:

Assessment File 91624
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

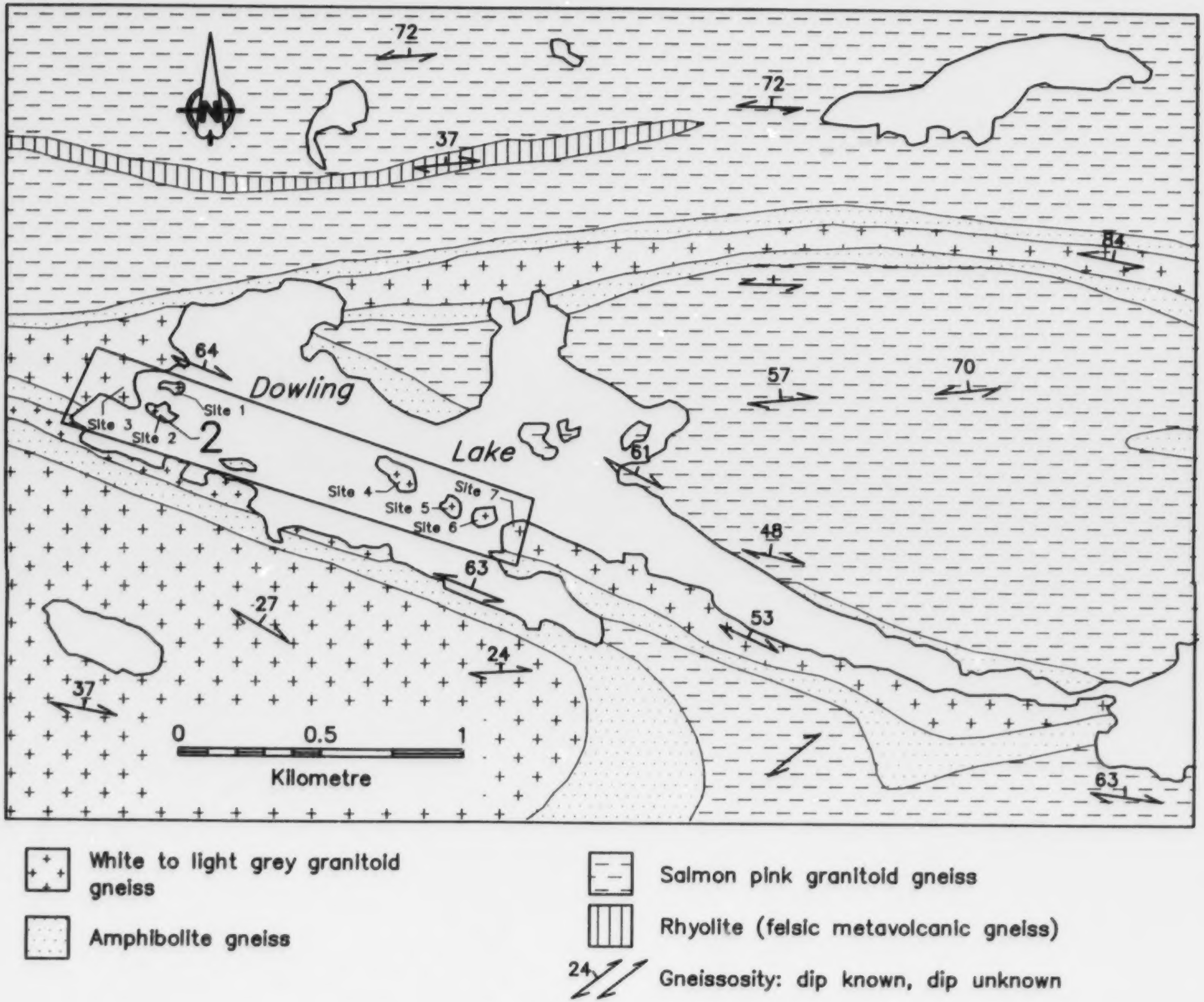

72
72
37
84
64
Dowling
Lake
Site 1
Site 2
Site 3
2
Site 4
Site 5
Site 6
Site 7
57
70
61
48
63
27
53
24
37
63
0
0.5
1
Kilometre
White to light grey granitoid gneiss
Amphibolite gneiss
Salmon pink granitoid gneiss
Rhyolite (felsic metavolcanic gneiss)
24
Gneissosity: dip known, dip unknown

Figure 2-1: Geological setting and site location map, occurrence 2.

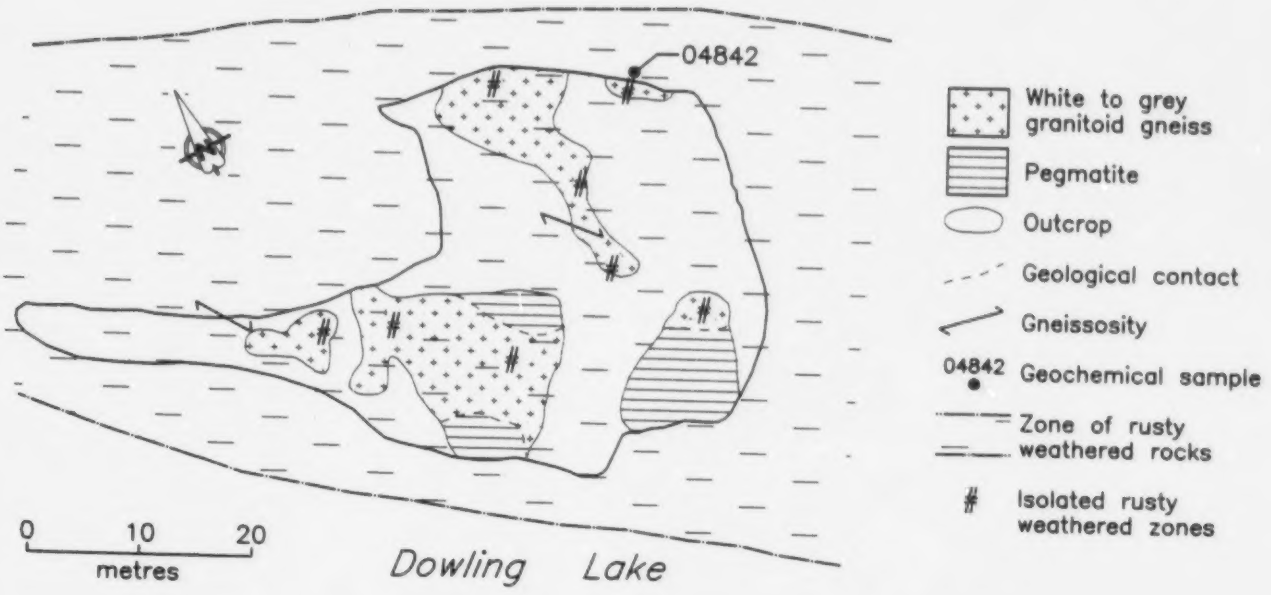

04842
White to grey granitoid gneiss
Pegmatite
Outcrop
Geological contact
Gneissosity
04842 Geochemical sample
Zone of rusty weathered rocks
Isolated rusty weathered zones
0 10 20
metres
Dowling Lake

Figure 2-2: ***Geology and sample location map, site 1, occurrence 2.***

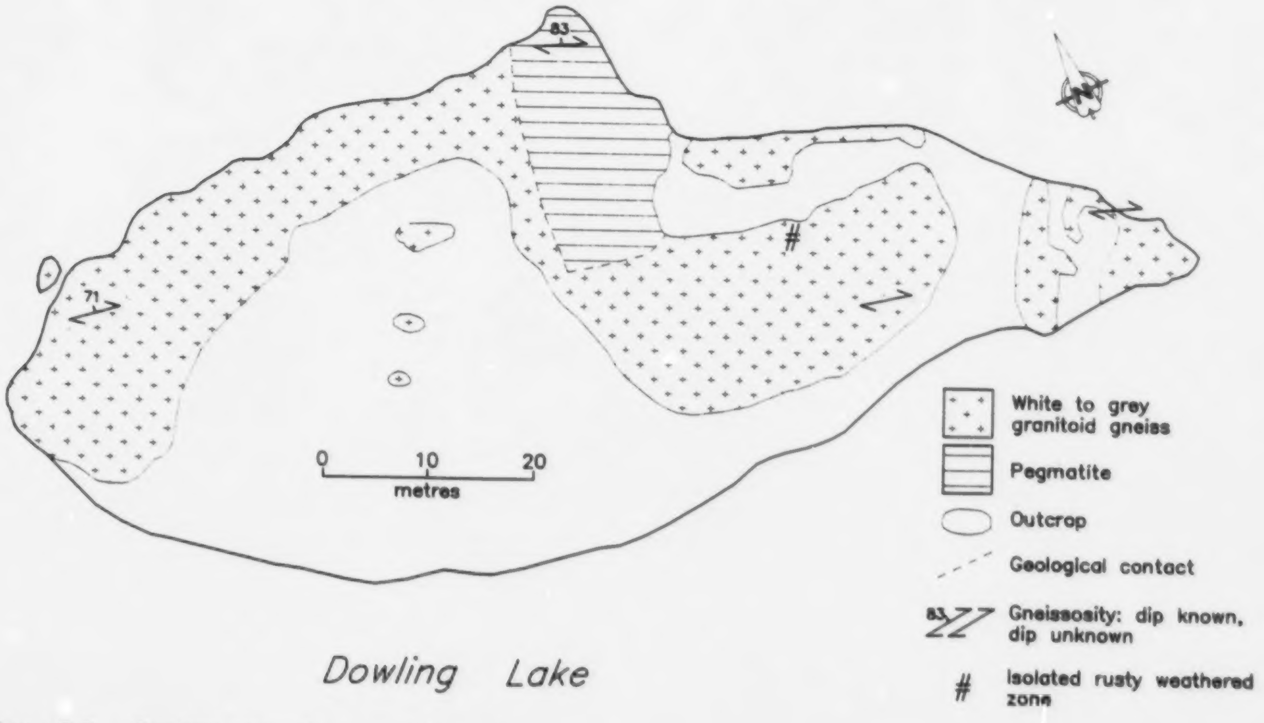

83
71
0 10 20
metres
White to grey granitoid gneiss
Pegmatite
Outcrop
Geological contact
83 Gneissosity: dip known, dip unknown
Isolated rusty weathered zone
Dowling Lake

Figure 2-3: ***Geology map, site 2, occurrence 2.***

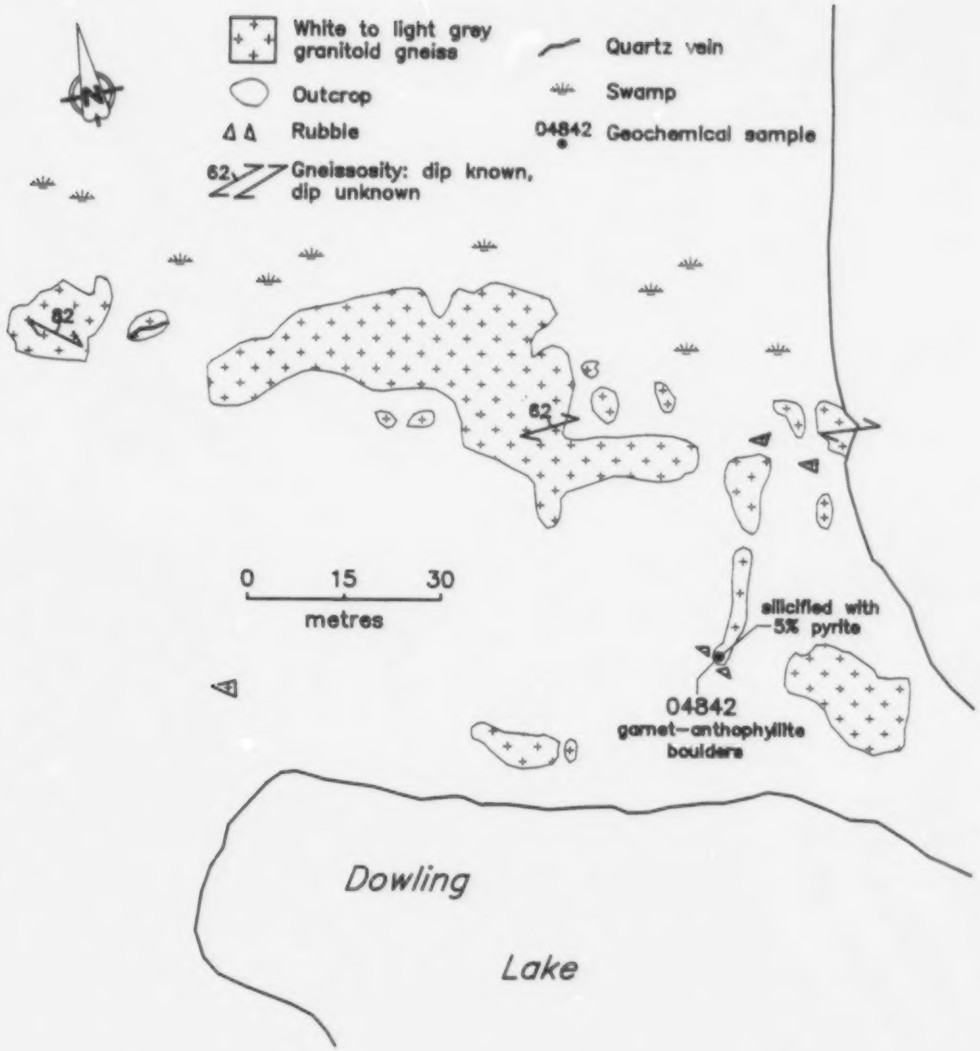

White to light grey granitoid gneiss
Outcrop
Rubble
62 Gneissosity: dip known, dip unknown
Quartz vein
Swamp
04842 Geochemical sample
N
62
62
0 15 30
metres
silicified with 5% pyrite
04842
garnet–anthophyllite boulders
Dowling
Lake

Figure 2-4: Geology and sample location map, site 3, occurrence 2.

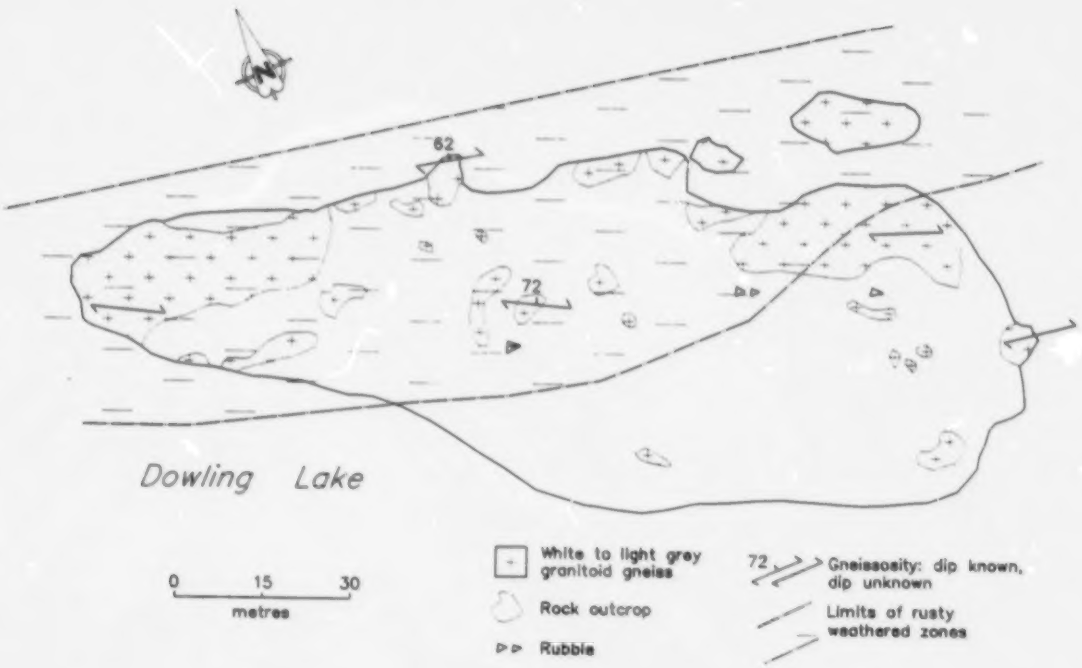

N
62
72
Dowling Lake
0 15 30
metres
White to light grey granitoid gneiss
Rock outcrop
Rubble
72 Gneissosity: dip known, dip unknown
Limits of rusty weathered zones

Figure 2-5: Geology map, site 4, occurrence 2.

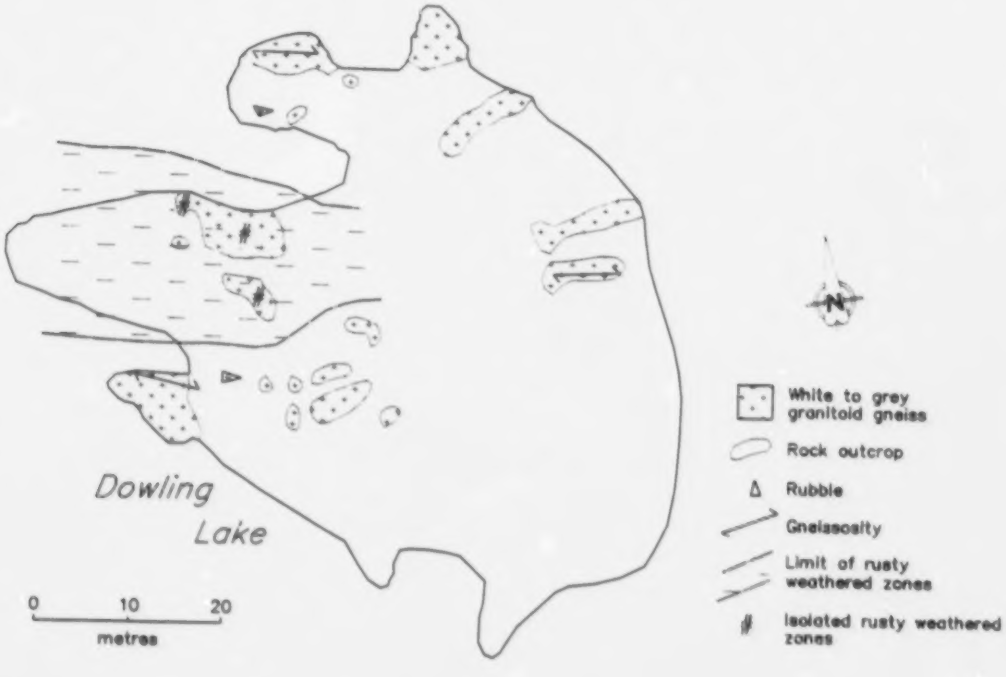

N
Dowling Lake
0 10 20
metres
White to grey granitoid gneiss
Rock outcrop
Δ Rubble
Gneissosity
Limit of rusty weathered zones
# Isolated rusty weathered zones

Figure 2-6: Geology map, site 5, occurrence 2.

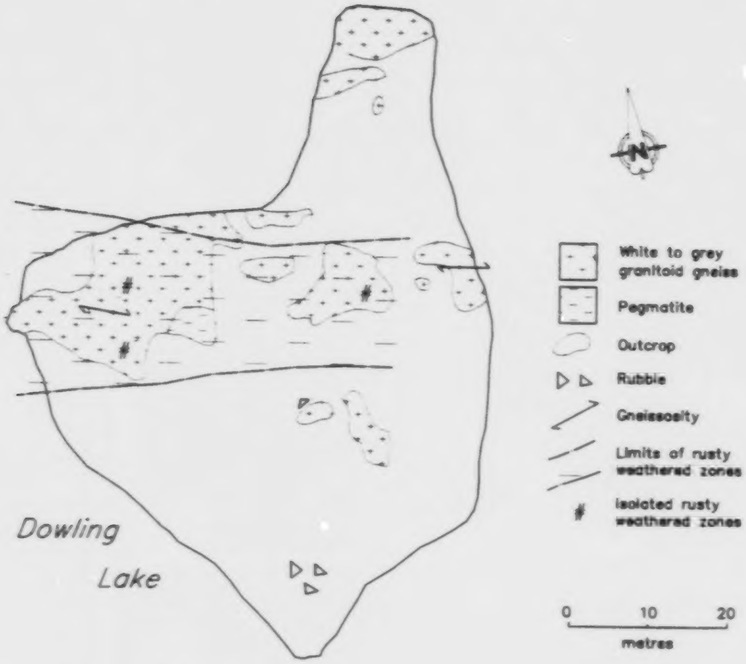

White to grey granitoid gneiss
Pegmatite
Outcrop
Rubble
Gneissosity
Limits of rusty weathered zones
Isolated rusty weathered zones
Dowling
Lake
0
10
20
metres

Figure 2-7: Geology map, site 6, occurrence 2.

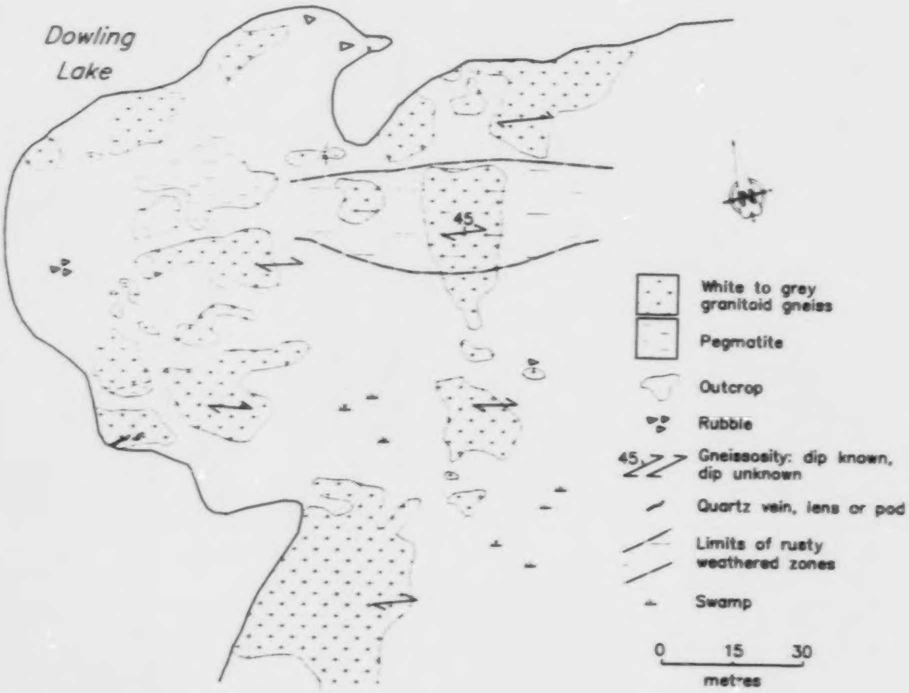

Dowling
Lake
45
White to grey granitoid gneiss
Pegmatite
Outcrop
Rubble
45
Gneissosity: dip known, dip unknown
Quartz vein, lens or pod
Limits of rusty weathered zones
Swamp
0
15
30
metres

Figure 2-8: Geology map, site 7, occurrence 2.

LOCATION: 3

NAME:

UTM: 6103195N/446591E

ACCESS: Bush plane to Dowling Lake, boat and traverse.

AREA: Dowling Lake

AIRPHOTO: MB87009-218

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors, associated with volcanic and sedimentary rocks at the periphery of the Herblet Lake Gneiss Dome Complex, were delineated. G. Langan staked claims Ottor 2 and 3 in 1988. The claims were cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by light grey to white granitoid gneiss, amphibolite gneiss and pink granitoid gneiss. These three lithologic components characterize the Herblet Lake Gneiss Dome Complex in this area (Fig. 1-1; Bailes, 1975). The host rocks to the occurrence (Fig. 3-1) are variably altered and mineralized amphibolite gneiss, flanked to the north by light grey to white granite gneiss and to the south by pink granitoid gneiss.

MINERALIZATION:

Disseminated chalcopyrite and pyrite occur with a silicate mineral alteration assemblage of garnet-anthophyllite-sillimanite in a silicified amphibolite gneiss (Fig. 3-1, 3-2). Locally, this alteration assemblage is developed in white to grey granitoid gneiss (Fig. 3-3, 3-4). Altered amphibolite gneiss contains 3 to 100%, 4 to 5 cm radiating clusters of anthophyllite, 5 to 6 cm red garnets with chalcopyrite cores, 1% sillimanite, 1 to 5% chalcopyrite and pyrite, and less than 1% molybdenite. This alteration assemblage forms a 1 km long east-trending zone with disseminated to solid anthophyllite ± garnet, magnetite, chalcopyrite and rare pyrite. Magnetite appears as 5 to 15%, 1 mm subhedral grains in the alteration zone and is up to 1 cm in quartz-feldspar segregations within the amphibolite. The distribution of alteration types at a portion of the occurrence is presented in Figure 3-4. A small outcrop situated in low swampy ground north of this zone, consists of medium grained quartz, black biotite and garnet with local rusty zones. This alteration may represent intense silicification of the amphibolite gneiss.

GEOCHEMICAL DATA:

Two representative outcrop chip samples (04636 and 04641) were collected for multi-element geochemical analysis. The samples contain 3041 and 5750 ppm Cu, 31 and 54 ppb Au, 10 and 5 ppm Sb, and 723 and 534 ppm W, respectively. The remainder of the analyses are presented in Appendix I.

CLASSIFICATION

Stratabound massive sulphide type deposit; alteration zone associated with volcanic rocks. The occurrence is characterized by a silicate-sulphide alteration mineral assemblage of the type that is usually associated with base metal massive sulphide type deposits in the Snow Lake mining camp.

REFERENCES:

Assessment File 91624
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

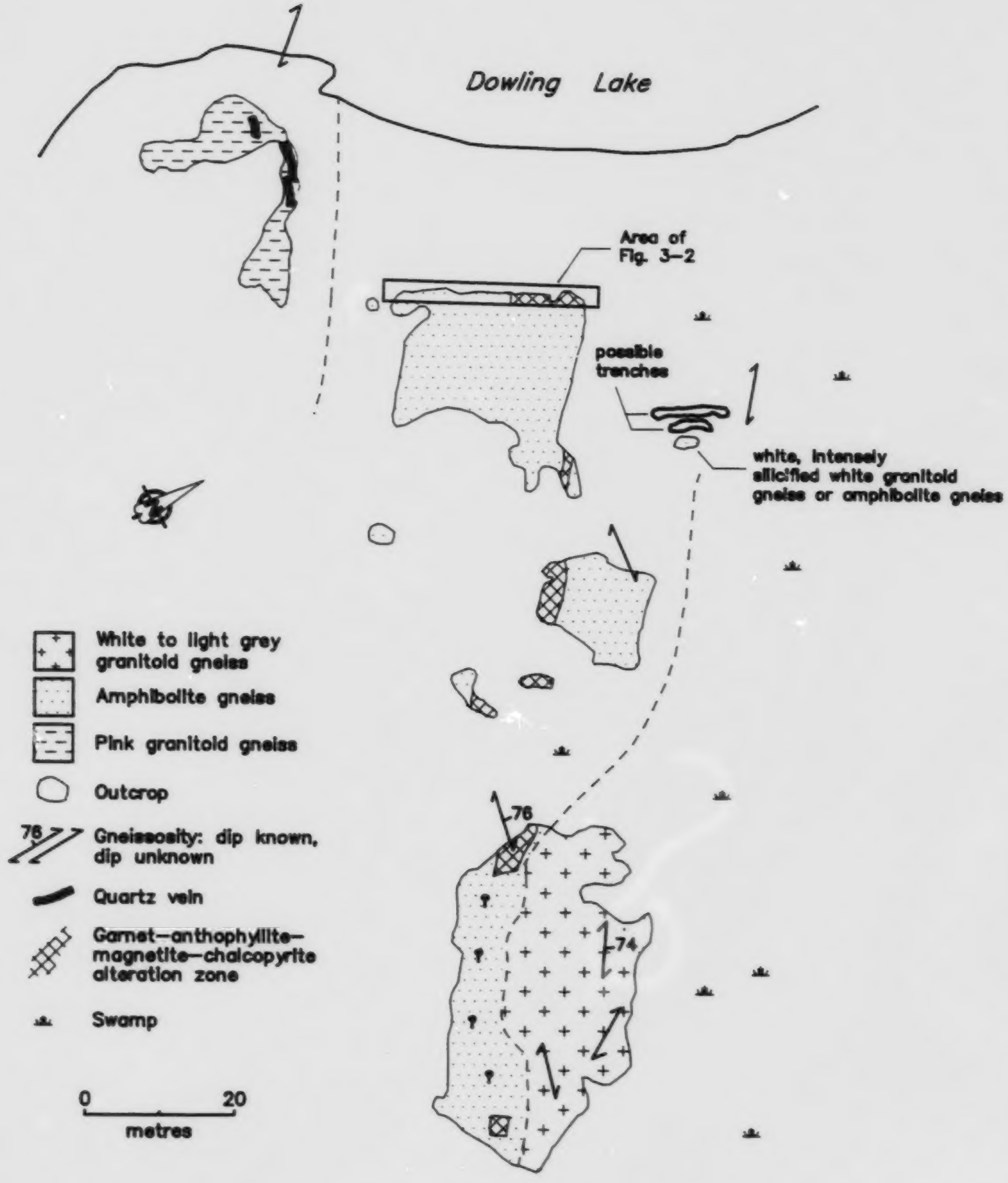
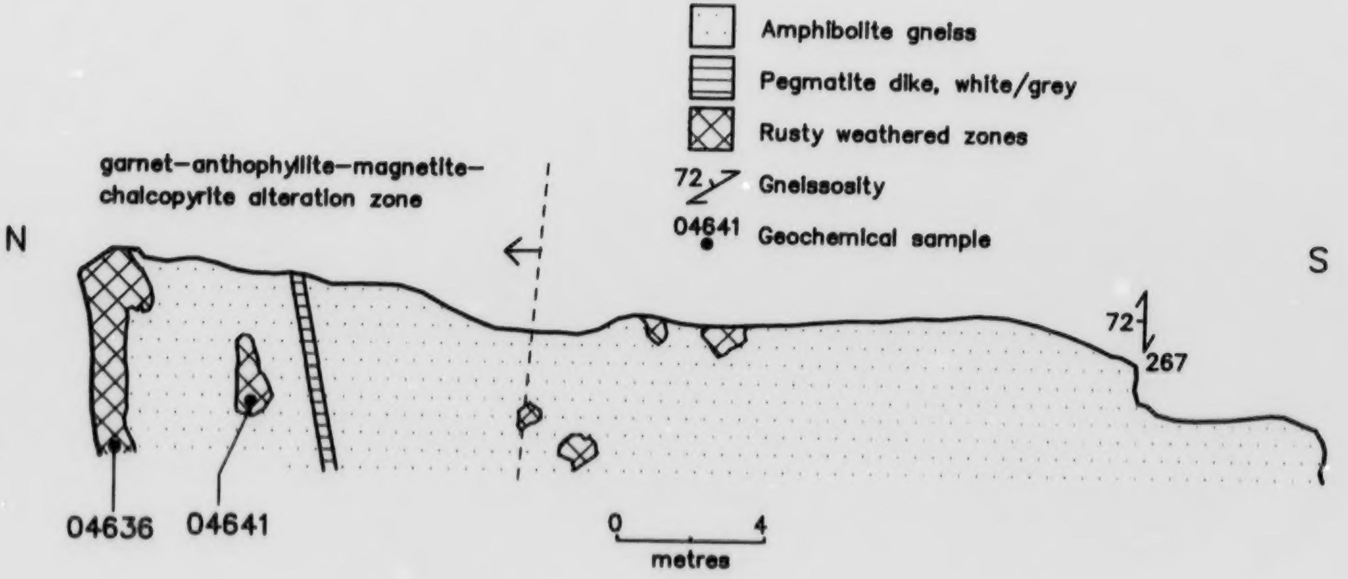

Dowling Lake
Area of Fig. 3-2
possible trenches
white, intensely silicified white granitoid gneiss or amphibolite gneiss
76
74
White to light grey granitoid gneiss
Amphibolite gneiss
Pink granitoid gneiss
Outcrop
76
Gneissosity: dip known, dip unknown
Quartz vein
Garnet–anthophyllite–magnetite–chalcopyrite alteration zone
Swamp
0
20
metres

Figure 3-1: Geology map, occurrence 3.



Amphibolite gneiss
Pegmatite dike, white/grey
Rusty weathered zones
72 Gneissosity
04641 Geochemical sample
garnet–anthophyllite–magnetite–chalcopyrite alteration zone
N
S
72
267
04636
04641
0
4
metres

Figure 3-2: Geological section looking east and sample location map, occurrence 3.

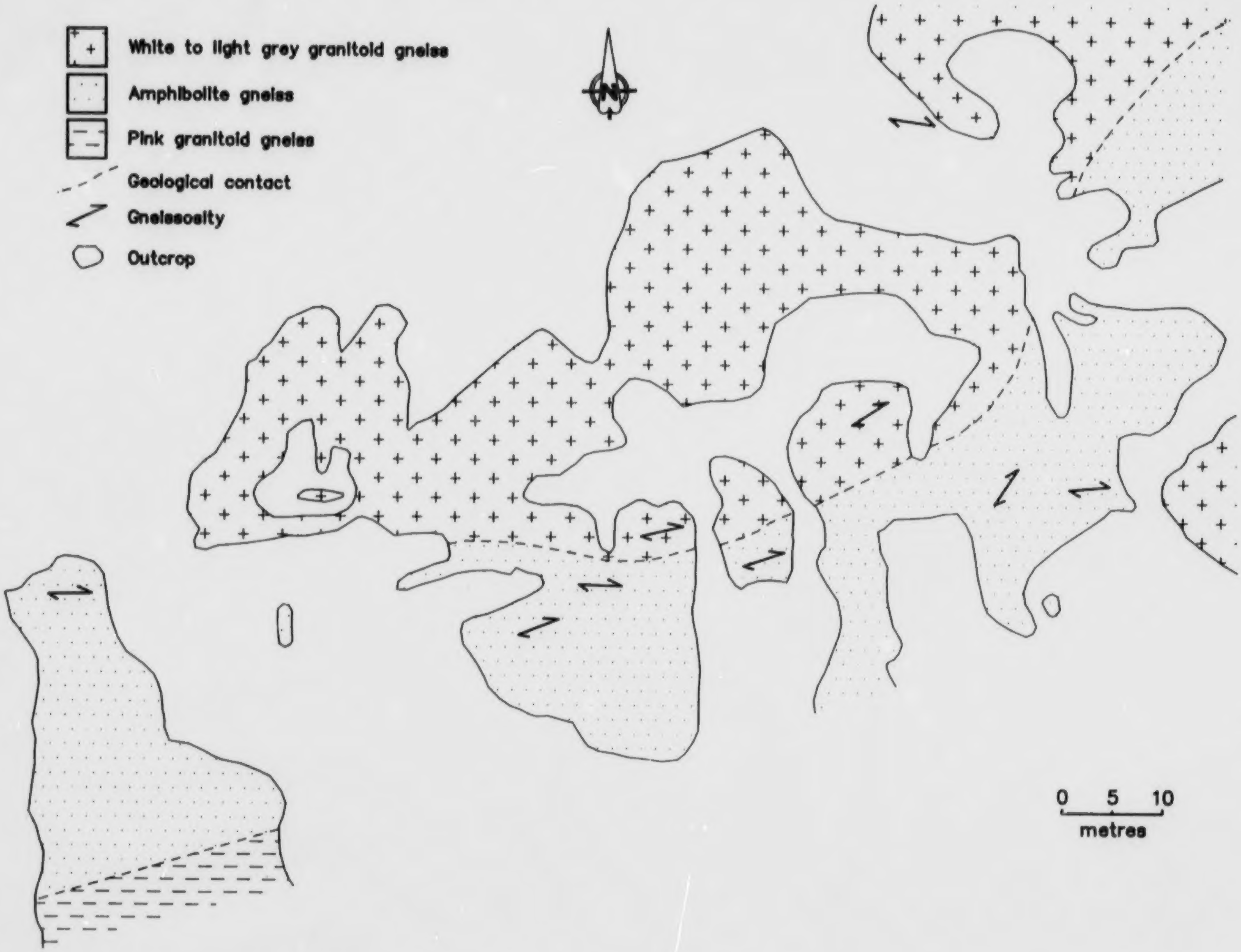

White to light grey granitoid gneiss
Amphibolite gneiss
Pink granitoid gneiss
Geological contact
Gneissosity
Outcrop
N
0
5
10
metres

Figure 3-3: Geology of exposure 30 m east of area shown in Figure 2-3, occurrence 3.

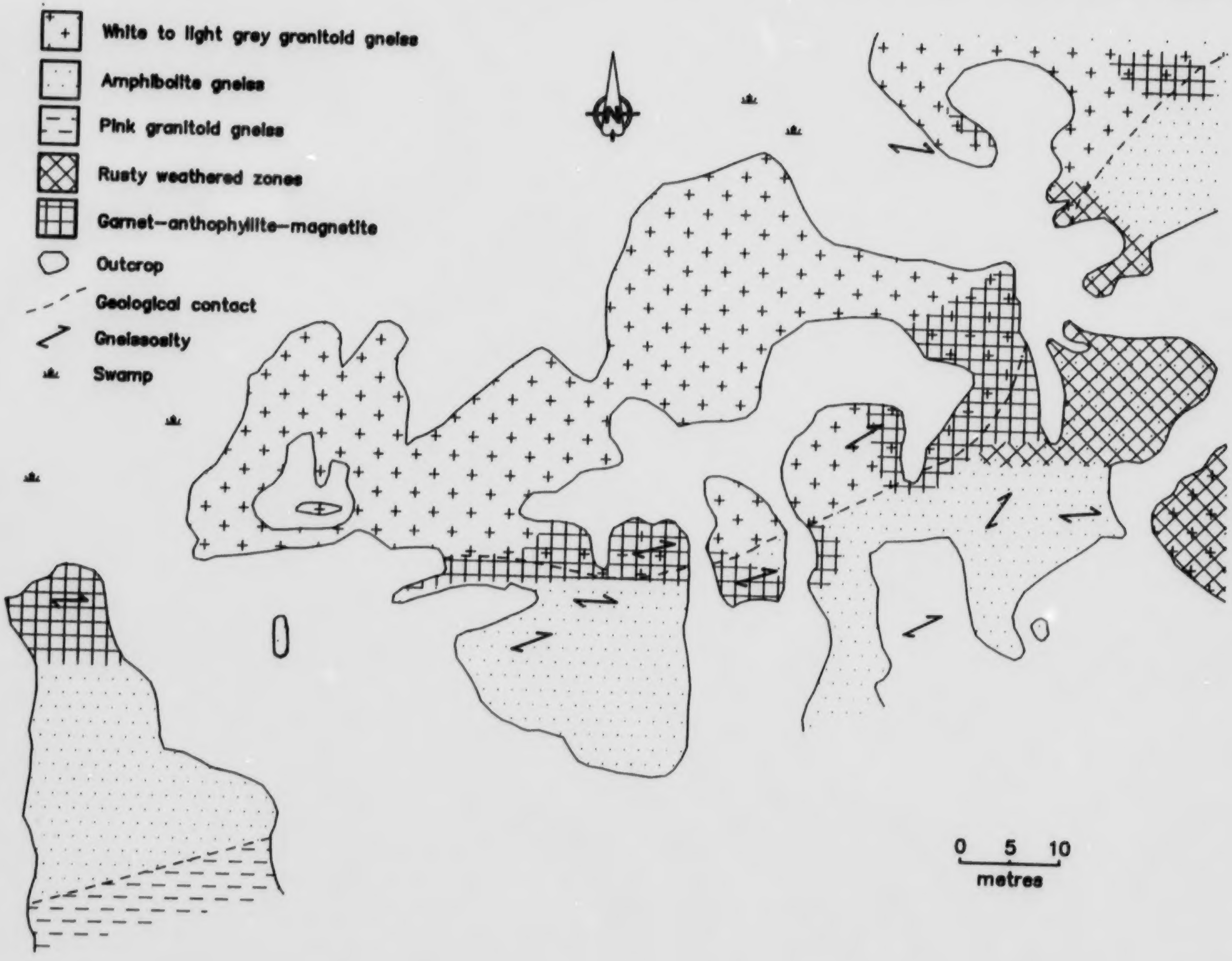

White to light grey granitoid gneiss
Amphibolite gneiss
Pink granitoid gneiss
Rusty weathered zones
Garnet–anthophyllite–magnetite
Outcrop
Geological contact
Gneissosity
Swamp
N
0 5 10
metres

Figure 3-4: Distribution of alteration types in area shown in Figure 3-3, occurrence 3.

LOCATION: 4

NAME:

UTM: 6103381N/447761E

ACCESS: Bush plane to Dowling Lake, boat and traverse.

AREA: Dowling Lake

AIRPHOTO: MB87009-218

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors, associated with volcanic and sedimentary rocks at the periphery of the Herblet Lake Gneiss Dome Complex, were delineated. A.L. Parres Ltd. staked claim Lym 6 in 1988. The claim was cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by amphibolite gneiss flanked to the north by grey and pink granitoid gneiss and to the south by pink granitoid gneiss. These three lithologic components characterize the Herblet Lake Gneiss Dome Complex in this area (Fig. 4-1; Bailes, 1975). White to grey and pink granitoid gneisses and dark grey amphibolite gneiss are exposed at the edges of an east-trending linear swamp. Gneissosity trends approximately easterly and has 63°-77° north dips. The amphibolite gneiss is altered to a coarse grained rusty weathered mineral assemblage of garnet-anthophyllite-black biotite (Fig. 4-2). This altered zone may be a continuation of the alteration zone described at occurrence 3.

MINERALIZATION:

Pyrite, 1 to 2%, is disseminated throughout the altered amphibolite gneiss.

GEOCHEMICAL DATA:

One representative outcrop chip sample (04640) was collected from the altered amphibolite gneiss for multi-element geochemical analysis. The sample contains low base and precious metals (Appendix I).

CLASSIFICATION:

Stratabound massive sulphide type deposit; alteration zone associated with volcanic rocks. Silicate mineral alteration assemblages are similar at occurrences 3 and 4. These alteration zones are mineralogically similar to the silicate mineral assemblages associated with base metal massive sulphide type deposits in the Snow Lake mining camp.

REFERENCES:

Assessment File 91624
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

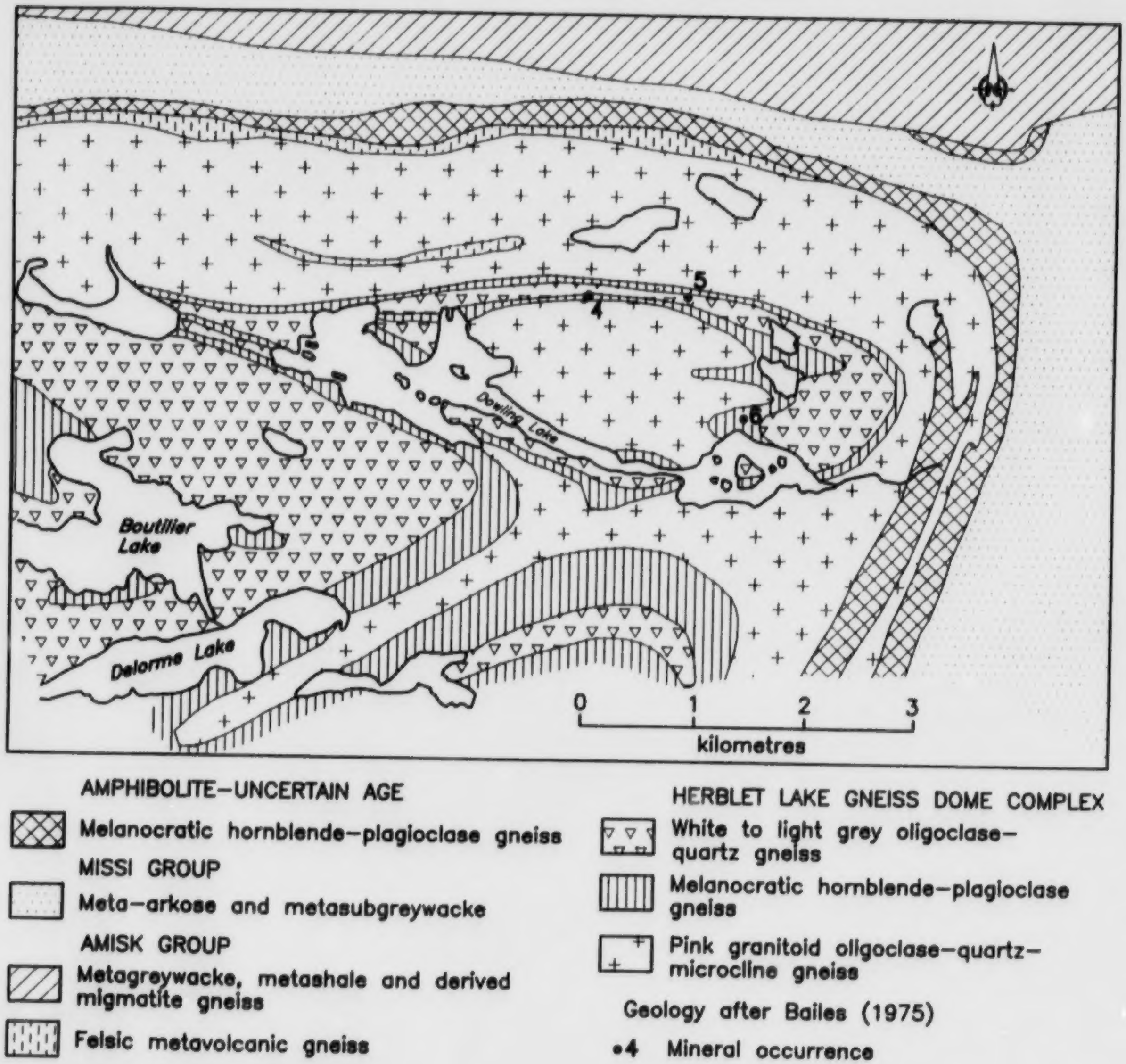

Boutilier Lake
Delorme Lake
Dowling Lake
4
5
6
0
1
2
3
kilometres
AMPHIBOLITE–UNCERTAIN AGE
Melanocratic hornblende–plagioclase gneiss
MISSI GROUP
Meta–arkose and metasubgreywacke
AMISK GROUP
Metagreywacke, metashale and derived migmatite gneiss
Felsic metavolcanic gneiss
HERBLET LAKE GNEISS DOME COMPLEX
White to light grey oligoclase–quartz gneiss
Melanocratic hornblende–plagioclase gneiss
Pink granitoid oligoclase–quartz–microcline gneiss
Geology after Bailes (1975)
•4 Mineral occurrence

Figure 4-1: Geological setting of occurrence 4, 5 and 6.

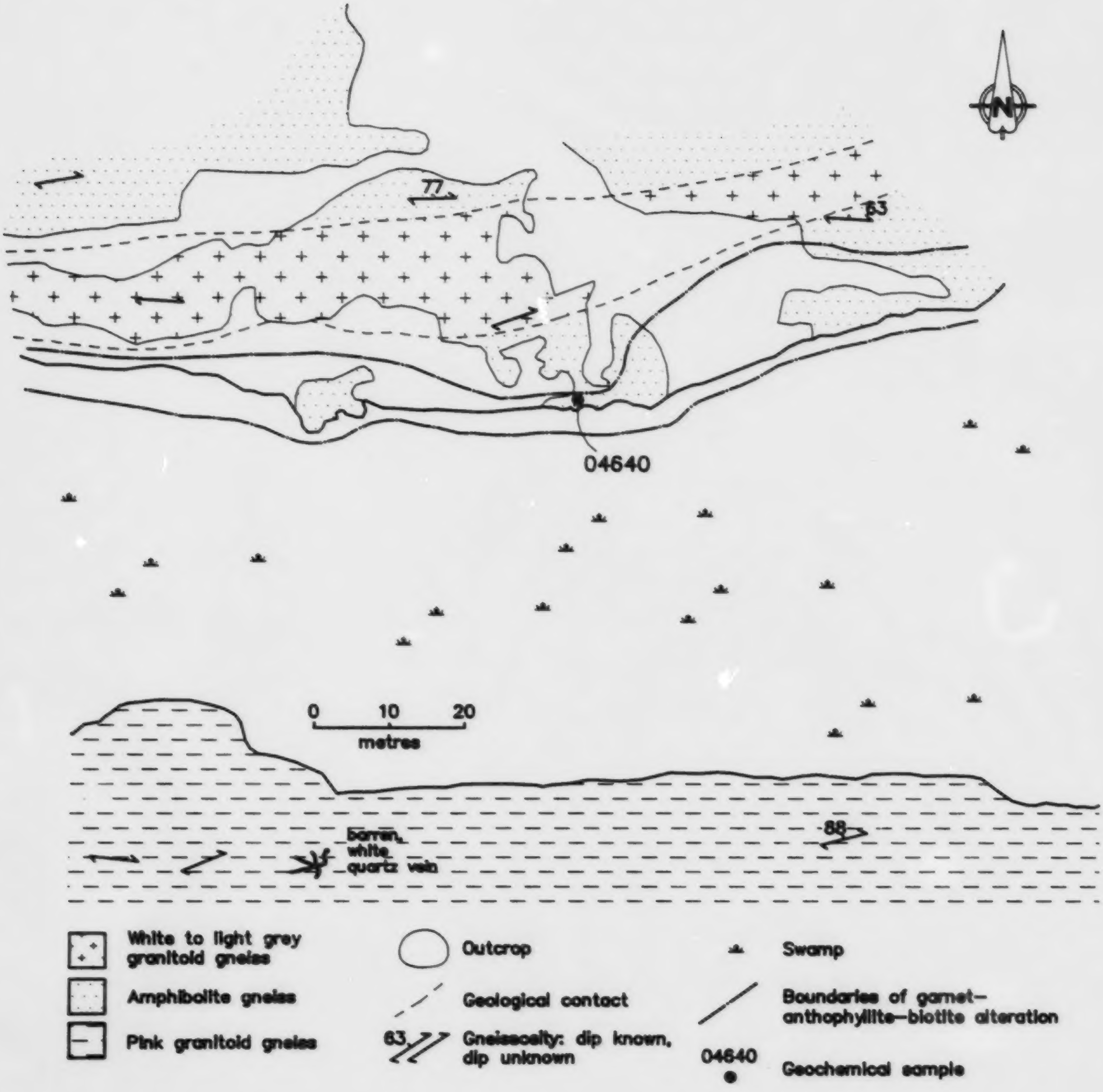

77
63
04640
0
10
20
metres
88
barren, white quartz vein
White to light grey granitoid gneiss
Amphibolite gneiss
Pink granitoid gneiss
Outcrop
Geological contact
63
Gneissosity: dip known, dip unknown
Swamp
Boundaries of garnet–anthophyllite–biotite alteration
04640
Geochemical sample
N

Figure 4-2: Geology and sample location map, occurrence 4.

LOCATION: 5

NAME:

UTM: 6103295N/448547E

ACCESS: Bush plane to Dowling Lake, boat and traverse.

AREA: Dowling Lake

AIRPHOTO: MB87009-218

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors, associated with volcanic and sedimentary rocks at the periphery of the Herblet Lake Gneiss Dome Complex, were delineated. A.L. Parres Ltd. staked claim Lym 7 in 1988. The claim was cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by amphibolite gneiss flanked to the south by pink granitoid gneiss and to the north by white to light grey granitoid gneiss. These three lithologic components characterize the Herblet Lake Gneiss Dome Complex in the Dowling Lake area (Fig. 4-1; Bailes, 1975). Rusty weathered, dark grey amphibolite gneiss and salmon pink granitoid gneiss are present in the area of the occurrence (Fig. 5-1). Gneissosity trends between 273° and 305°. The occurrence is characterized by (1) rusty weathered quartz pods and lenses and (2) a linear, 1 to 3 m wide east-trending alteration zone consisting of garnet-cordierite-anthophyllite-biotite. Garnet and cordierite grains attain maximum dimensions of 3 cm. The quartz pods and lenses and the alteration zone occur within amphibolite gneiss. The alteration zone may be an eastward extension of the alteration zones described at occurrences 3 and 4. Exposure of the alteration zone is truncated to the east by swamp.

MINERALIZATION:

Less than 1% pyrite is disseminated in rusty weathered quartz veins and pods in altered amphibolite gneiss.

GEOCHEMICAL DATA:

Representative outcrop chip sample 04845 was collected from the occurrence for multi-element geochemical analysis. The sample contains low base and precious metals (Appendix I).

CLASSIFICATION:

Stratabound massive sulphide type deposit; alteration zone associated with volcanic rocks. The silicate mineral alteration assemblage of garnet-cordierite-biotite-anthophyllite is characteristic of alteration associated with Snow Lake base metal massive sulphide type deposits. A vein type deposit; multiple veins or lenses is also present at this locality.

REFERENCES:

Assessment File 91624
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

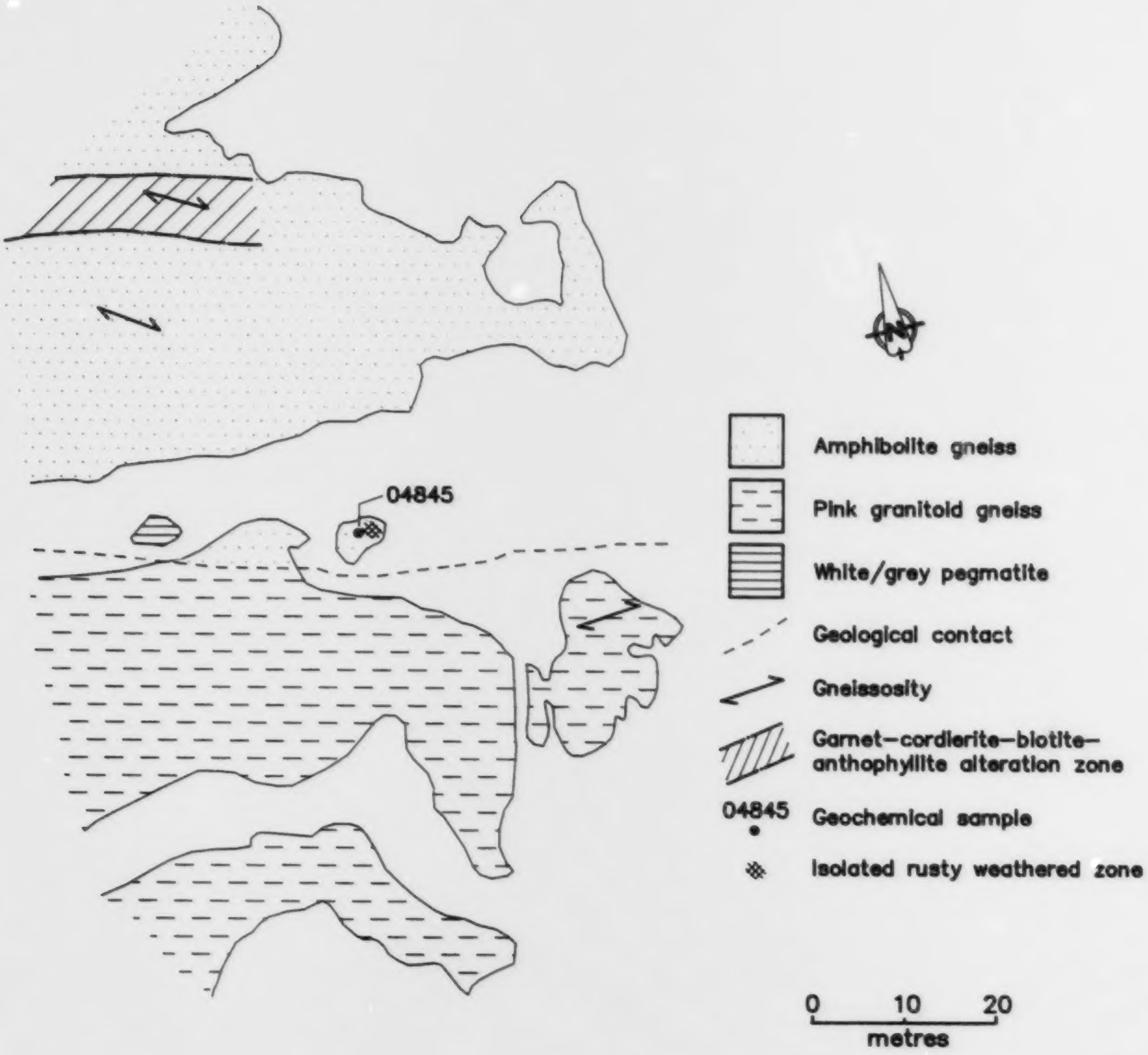

04845
N
Amphibolite gneiss
Pink granitoid gneiss
White/grey pegmatite
Geological contact
Gneissosity
Garnet–cordierite–biotite–anthophyllite alteration zone
04845
Geochemical sample
Isolated rusty weathered zone
0
10
20
metres

Figure 5-1: Geology and sample location map, occurrence 5.

LOCATION: 6

NAME:

UTM: 6102235N/448966E

ACCESS: Bush plane to Dowling Lake and traverse.

AREA: Dowling Lake

AIRPHOTO: MB87012-22

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors, associated with volcanic and sedimentary rocks at the periphery of the Herblet Lake Gneiss Dome Complex, were delineated. A.L. Parres Ltd. staked claim Lym 7 in 1988. The claim was cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by amphibolite gneiss, flanked to the west by pink granitoid gneiss and to the east by fine- to medium-grained, white to grey granitoid gneiss. These three lithologic components characterize the Herblet Lake Gneiss Dome Complex in this area (Fig. 4-1; Bailes, 1975). Variably altered white to grey granitoid gneiss and dark grey to black amphibolite gneiss, locally containing 1 to 3 mm grains of magnetite and garnet are present in the immediate area of the occurrence. Alteration is developed at or near the contact between amphibolite and granitoid gneiss and is characterized by silicification and the formation of a biotite-anthophyllite-garnet assemblage accompanied by patchy brick red, iron oxide stain. The alteration assemblage forms a 1 to 4 m wide east-trending linear zone (Fig. 6-1) and is similar to zones described at occurrences 3, 4 and 5.

MINERALIZATION:

Disseminated pyrite, 1%, occurs in brick red, iron oxide patches.

GEOCHEMICAL DATA:

None.

CLASSIFICATION:

Stratabound massive sulphide type deposit; alteration zone associated with volcanic rocks. The silicate alteration assemblage is similar to that associated with base metal massive sulphide type deposits in the Snow Lake mining camp.

REFERENCES:

Assessment File 91624
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

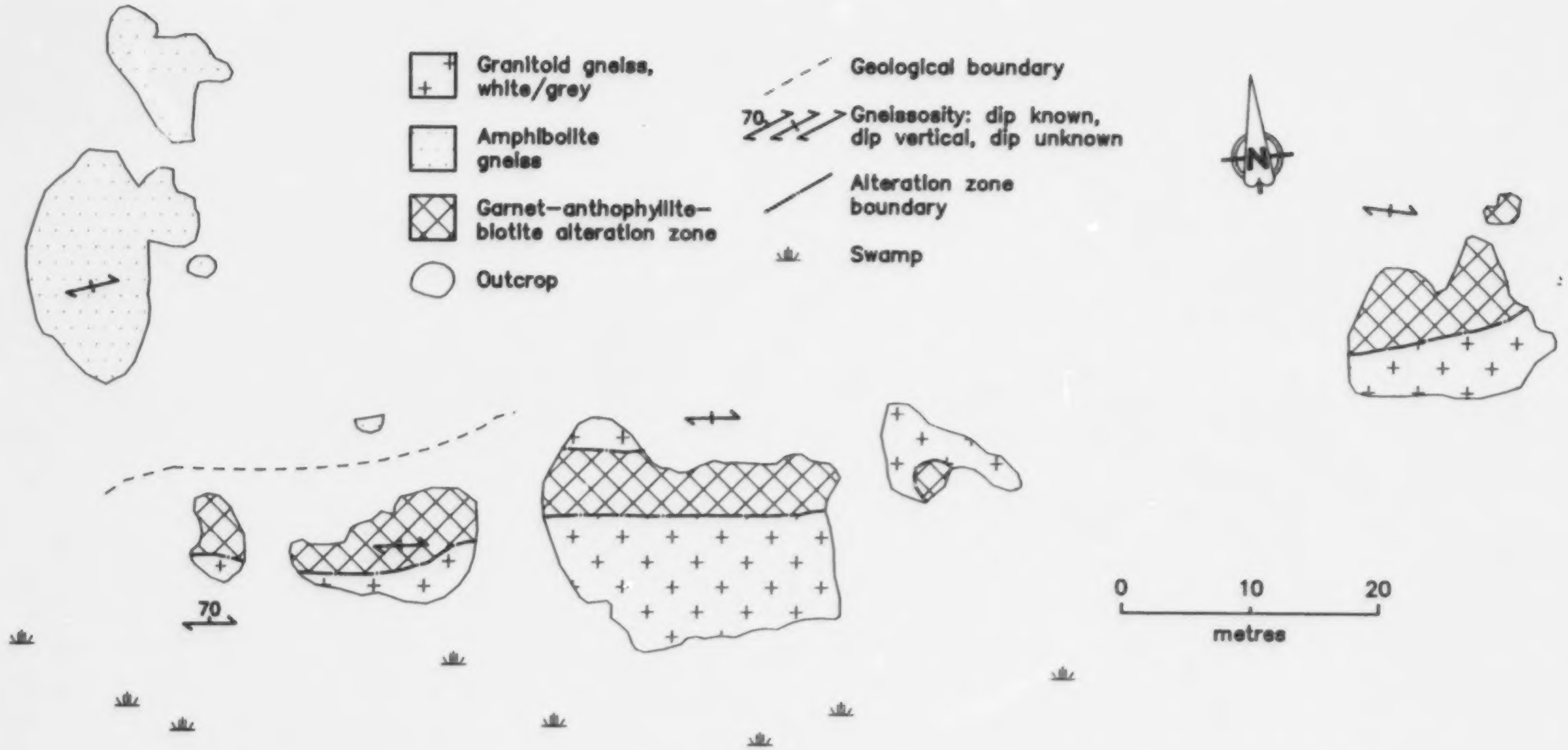

Granitoid gneiss, white/grey
Amphibolite gneiss
Garnet–anthophyllite–biotite alteration zone
Outcrop
Geological boundary
Gneissosity: dip known, dip vertical, dip unknown
70
Alteration zone boundary
Swamp
N
70
0
10
20
metres

Figure 6-1: Geology map, occurrence 6.

LOCATION: 7

NAME:

UTM: 6102669N/449192E

ACCESS: Bush plane to Dowling Lake and traverse.

AREA: Dowling Lake

AIRPHOTO: MB87012-22

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors, associated with volcanic and sedimentary rocks at the periphery of the Herblet Lake Gneiss Dome Complex, were delineated. A.L. Parres Ltd. staked claim Lym 7 in 1988. The claim was cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by massive and gneissic white to grey granitoid rocks flanked to the east by amphibolite gneiss and grey granitoid gneiss, and to the west by pink granitoid gneiss. These three lithologic components characterize the Herblet Lake Gneiss Dome Complex in this area (Fig. 7-1; Bailes, 1975). Strongly foliated to gneissose granitoid rocks marked by narrow rusty weathered zones that are subparallel to gneissosity characterize the immediate area of the occurrence (Fig. 7-2). White, nonmineralized quartz veins, ranging from 6 to 25 cm thick, occur in the general area. The two sets of quartz veins are boudinaged and trend between 257° to 275° due north. Feldspar-rich lenses, 1 to 2 cm, are present within the quartz veins.

MINERALIZATION:

Up to 2% disseminated pyrite occurs in the rusty weathered zones in the granitoid gneiss.

GEOCHEMICAL DATA:

None.

CLASSIFICATION:

Disseminated mineralization - not classified.

REFERENCES:

Assessment File 91624
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

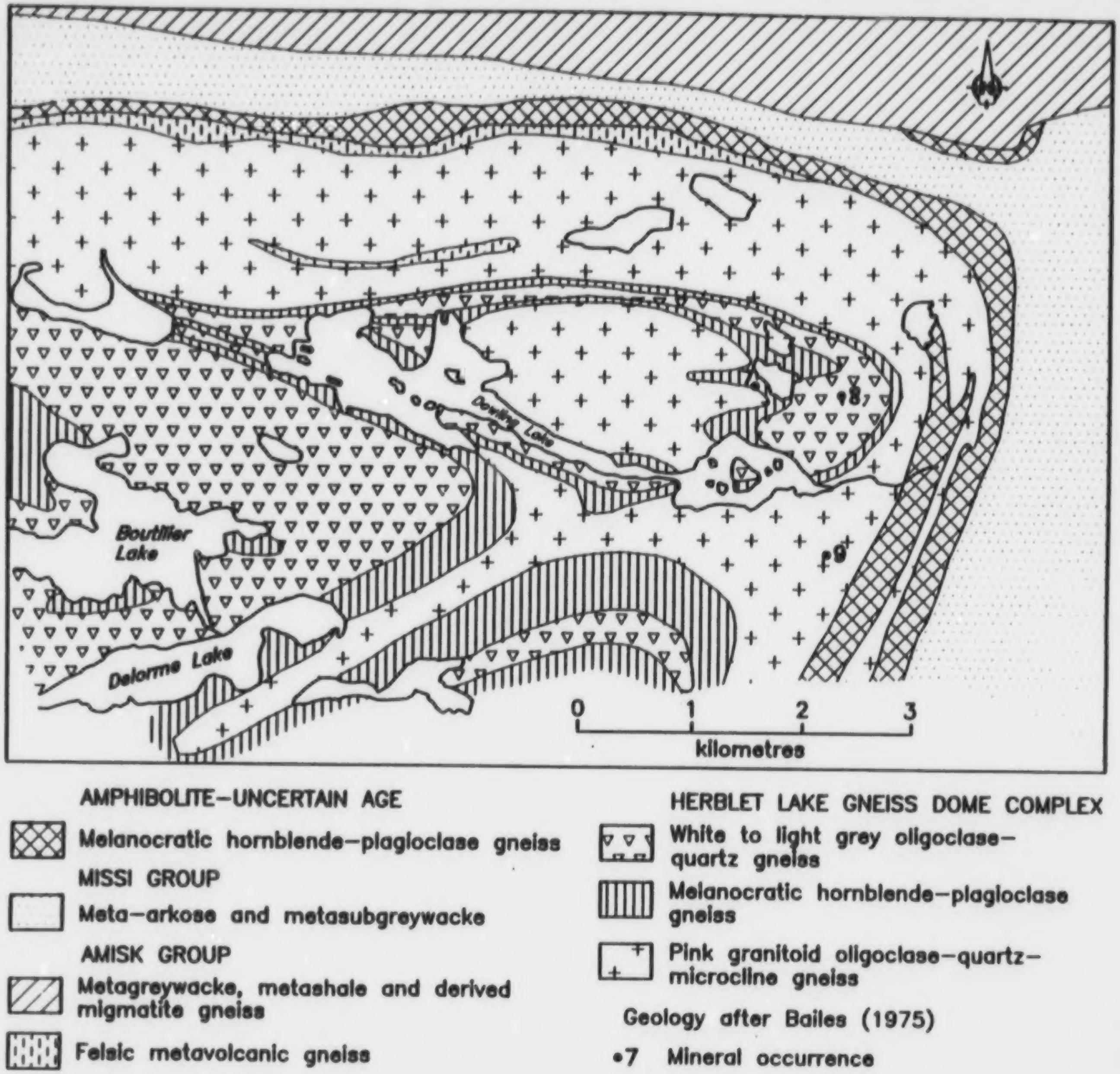

Boutilier Lake
Dowling Lake
Delorme Lake
8
9
0
1
2
3
kilometres
AMPHIBOLITE–UNCERTAIN AGE
Melanocratic hornblende–plagioclase gneiss
MISSI GROUP
Meta–arkose and metasubgreywacke
AMISK GROUP
Metagreywacke, metashale and derived migmatite gneiss
Felsic metavolcanic gneiss
HERBLET LAKE GNEISS DOME COMPLEX
White to light grey oligoclase–quartz gneiss
Melanocratic hornblende–plagioclase gneiss
Pink granitoid oligoclase–quartz–microcline gneiss
Geology after Bailes (1975)
•7 Mineral occurrence

Figure 7-1: Geological setting of occurrences 7, 8 and 9.

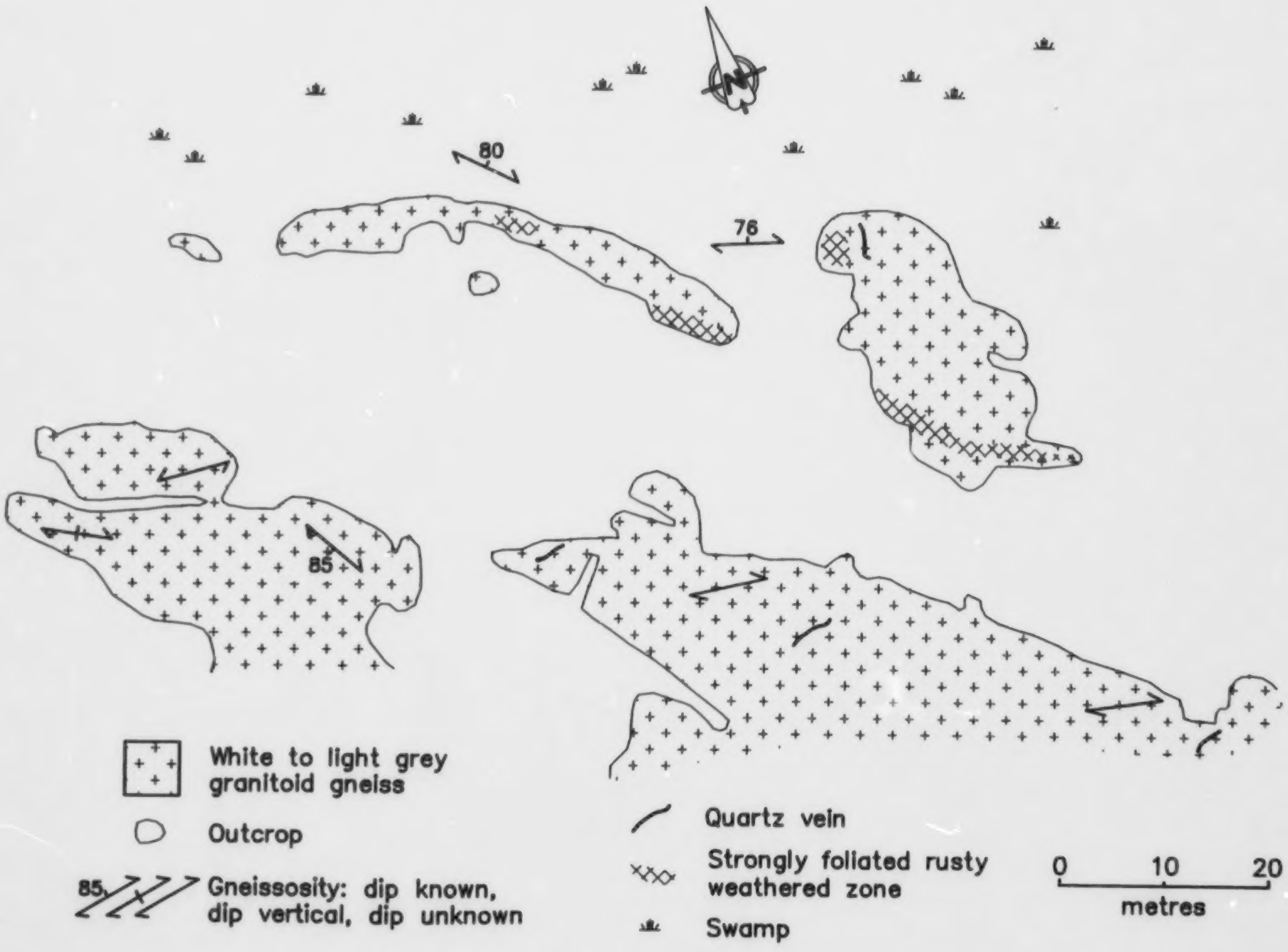

80
76
85
N
White to light grey granitoid gneiss
Outcrop
85
Gneissosity: dip known, dip vertical, dip unknown
Quartz vein
Strongly foliated rusty weathered zone
Swamp
0
10
20
metres

Figure 7-2: Geology map, occurrence 7.

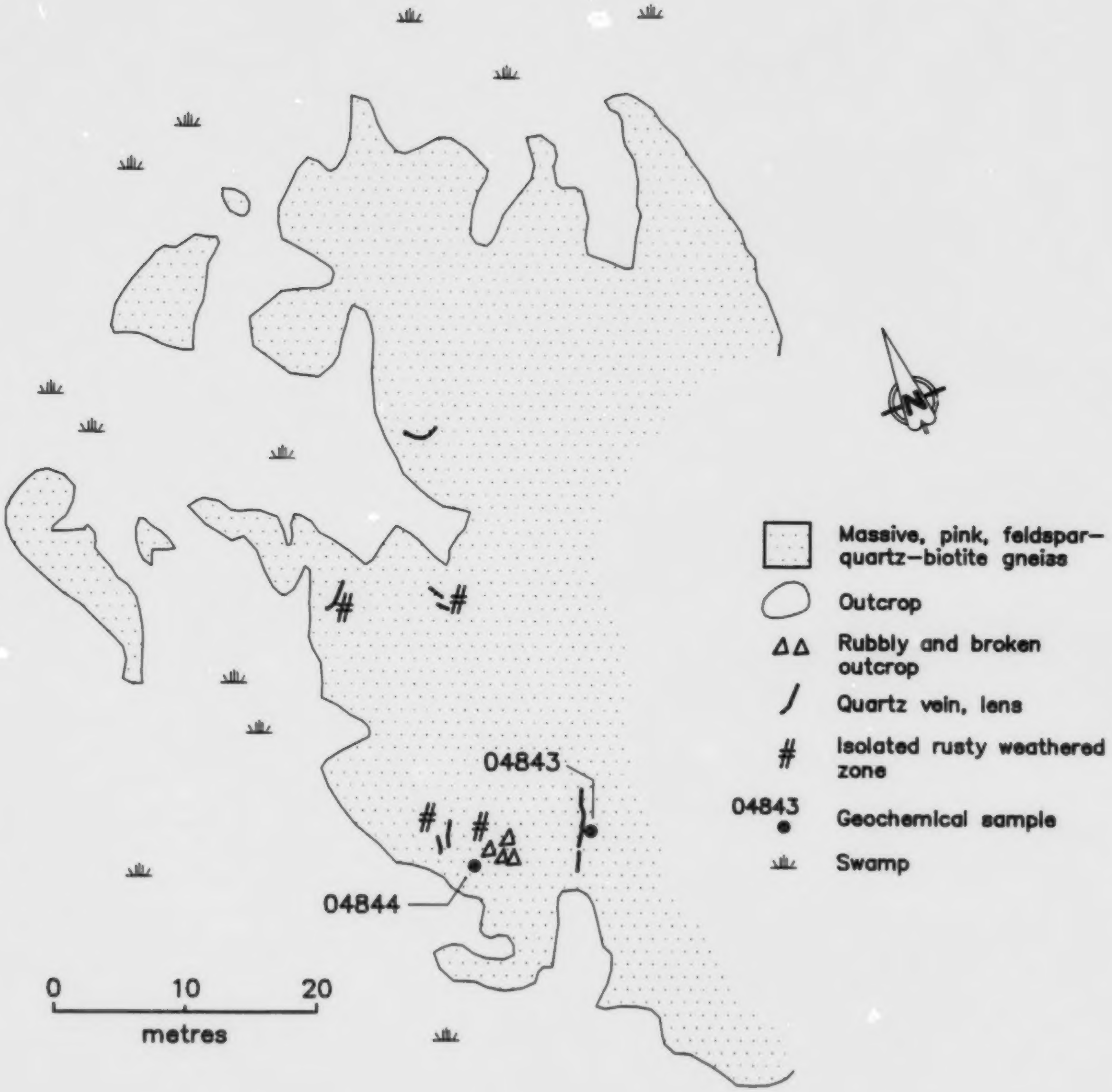

04843
04844
0
10
20
metres
N
Massive, pink, feldspar–quartz–biotite gneiss
Outcrop
Rubbly and broken outcrop
Quartz vein, lens
Isolated rusty weathered zone
04843
Geochemical sample
Swamp

Figure 8-1: Geology and sample location map, occurrence 8.

LOCATION: 8

NAME:

UTM: 6102612N/449978E

ACCESS: Bush plane to Dowling Lake and traverse.

AREA: North of Dowling Lake (Fig. 7-1)

AIRPHOTO: MB87012-22

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors, associated with volcanic and sedimentary rocks at the periphery of the Herblet Lake Gneiss Dome Complex, were delineated. A.L. Parres Ltd. staked claim Lym 8 in 1988. The claim was cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by massive, pink, magnetite-bearing granitoid gneiss and white to grey granitoid gneiss. Thin units of amphibolite gneiss flank the granitoid gneisses to the east and west. These three lithologic components characterize the Herblet Lake Gneiss Dome Complex in this area (Fig. 7-1; Bailes, 1975). The occurrence is hosted by predominantly massive, pink, magnetite-bearing granitoid gneiss (Fig. 8-1). The granitoid gneiss is rusty weathered, contains abundant, 1 to 3 mm, subhedral magnetite grains and discontinuous lenses of white quartz.

MINERALIZATION:

A 0.2 m thick rusty weathered quartz vein contains 1% pyrite. The rusty weathered granitoid gneiss also contains 1% pyrite in zones adjacent to the quartz vein.

GEOCHEMICAL DATA:

Representative outcrop chip samples 04843 and 04844 were collected from the occurrence for multi-element geochemical analysis. The samples contain low base and precious metals (Appendix I).

CLASSIFICATION:

Vein type deposit; single vein. The pyritic quartz vein is hosted by rusty weathered granitoid gneiss.

REFERENCES:

Assessment File 91624

Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.

1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

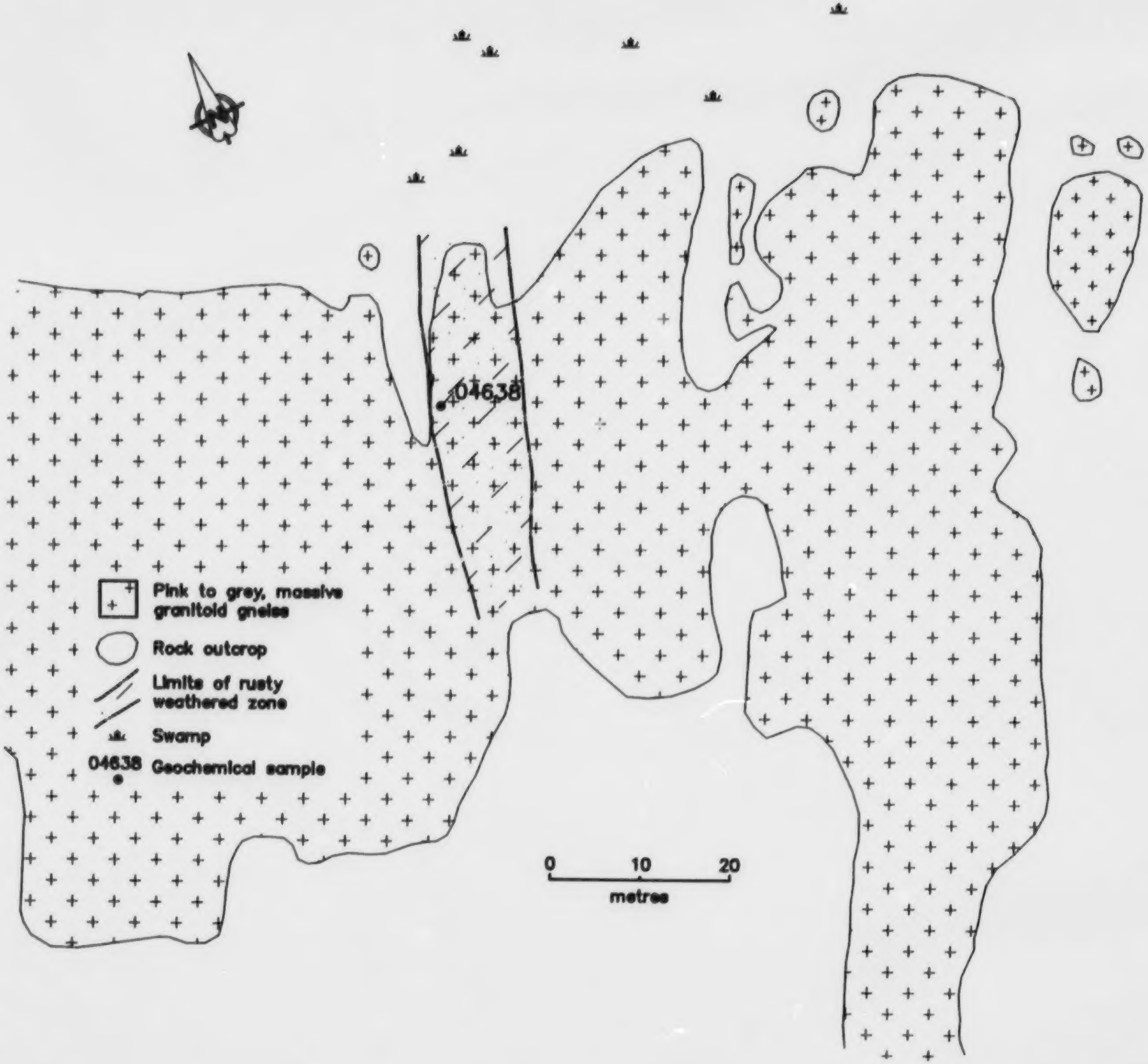

04638
Pink to grey, massive granitoid gneiss
Rock outcrop
Limits of rusty weathered zone
Swamp
04638 Geochemical sample
0
10
20
metres

Figure 9-1: Geology and sample location map, occurrence 9.

LOCATION: 9

NAME:

UTM: 6101303N/449871E

ACCESS: Bush plane to Dowling Lake and traverse.

AREA: South of Dowling Lake (Fig. 7-1)

AIRPHOTO: MB87012-21

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors, associated with volcanic and sedimentary rocks at the periphery of the Herblet Lake Gneiss Dome Complex, were delineated. A.L. Parres Ltd. staked claim Lym 9 in 1988. The claim was cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by massive, pink granitoid gneiss that is flanked to the west by tectonically brecciated amphibolite gneiss and to the east by amphibolite of uncertain affinity. These rocks characterize the Herblet Lake Gneiss Dome Complex in this area (Fig. 7-1; Bailes, 1975). The pink granitoid gneiss contains a 6.1 to 9.1 m wide zone of patchy iron oxide stain that trends north (Fig. 9-1).

MINERALIZATION:

Less than 1% disseminated pyrite occurs in the rusty weathered patches.

GEOCHEMICAL DATA:

Representative outcrop chip sample 04638 was collected for multi-element geochemical analysis. The sample contains 26 ppb Au and low base metals (Appendix I).

CLASSIFICATION:

Disseminated mineralization - not classified.

REFERENCES:

Assessment File 91624
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

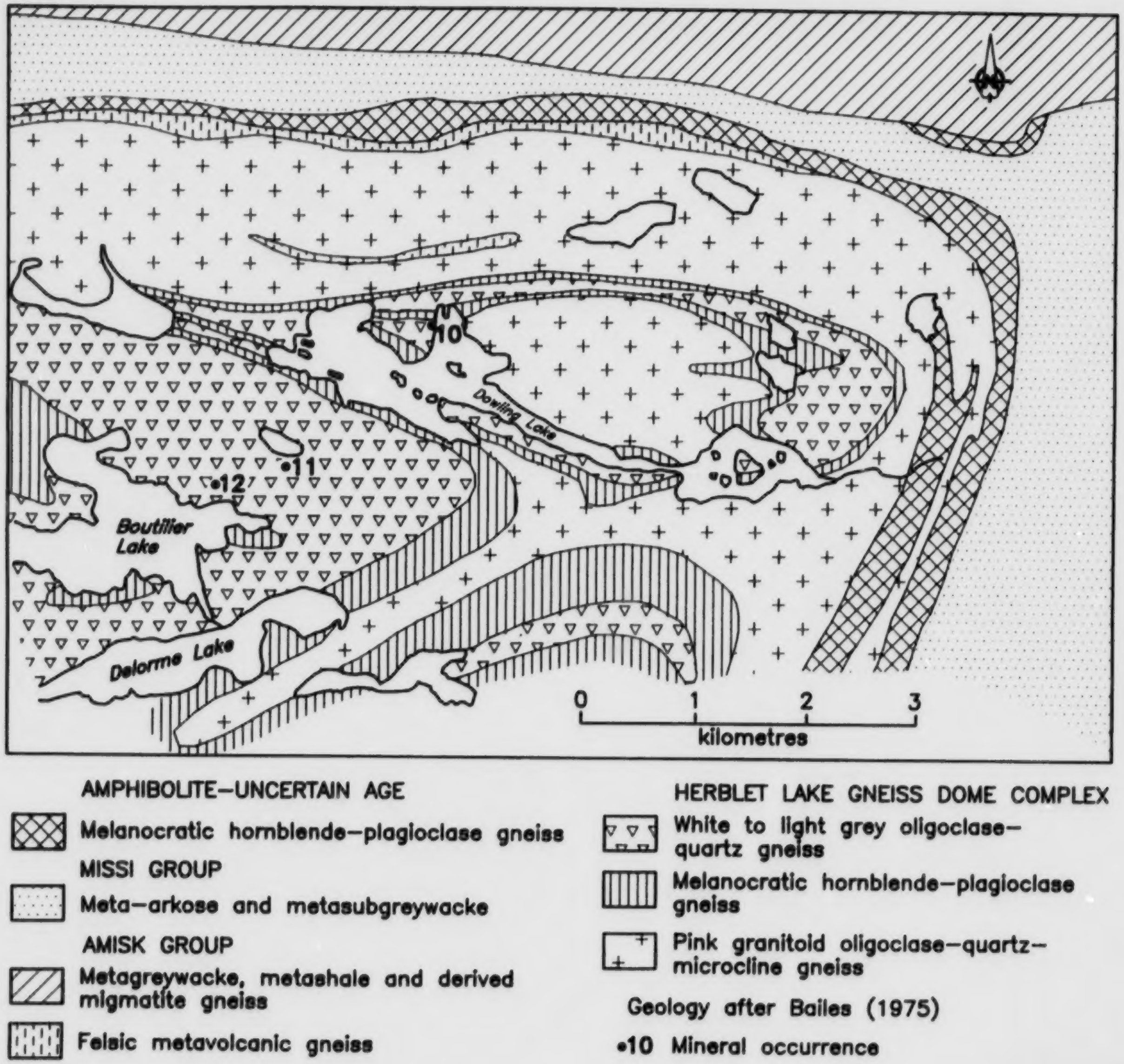

Dowling Lake
10
11
12
Boutiller Lake
Delorme Lake
0
1
2
3
kilometres
AMPHIBOLITE–UNCERTAIN AGE
Melanocratic hornblende–plagioclase gneiss
MISSI GROUP
Meta–arkose and metasubgreywacke
AMISK GROUP
Metagreywacke, metashale and derived migmatite gneiss
Felsic metavolcanic gneiss
HERBLET LAKE GNEISS DOME COMPLEX
White to light grey oligoclase–quartz gneiss
Melanocratic hornblende–plagioclase gneiss
Pink granitoid oligoclase–quartz–microcline gneiss
Geology after Bailes (1975)
•10 Mineral occurrence

Figure 10-1: Geological setting of occurrences 10, 11 and 12.

LOCATION: 10

NAME:

UTM: 6103143N/446309E

ACCESS: Bush plane to Dowling Lake and traverse.

AREA: Dowling Lake

AIRPHOTO: MB87009-218

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors, associated with volcanic and sedimentary rocks at the periphery of the Herblet Lake Gneiss Dome Complex, were delineated. G. Langan staked claim Ottor 2 in 1988. The claim was cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by amphibolite gneiss that is flanked to the north by light grey to white and pink granitoid gneiss and to the south by pink granitoid gneiss. These rock units characterize the Herblet Lake Gneiss Dome Complex in this area (Fig. 10-1; Bailes, 1975). The occurrence may represent the along-strike western extension of occurrences 3, 4, and 5. In the immediate area of the occurrence rusty weathered amphibolite contains discontinuous quartz veins, pods and laminae.

MINERALIZATION:

Disseminated pyrite, 1%, and <1% chalcopyrite occurs in white quartz veins and adjacent wallrock. Fracture surfaces in the quartz veins commonly are coated with malachite.

GEOCHEMICAL DATA:

Representative outcrop chip samples 04634 and 04635 were collected from the area of the occurrence for multi-element geochemical analysis. Both samples represent rusty weathered quartz veins that contain 1% disseminated pyrite, less than 1% disseminated chalcopyrite and malachite stained fractures. Portions of rusty weathered amphibolite gneiss were included with the quartz vein in the samples. Sample 04635 contains 44 ppb Au; both samples contain low base metals (Appendix I).

CLASSIFICATION:

Vein type deposit; multiple veins or lenses. Multiple, malachite-coated fractures in quartz veins in silicified amphibolite.

REFERENCES:

Assessment File 91624
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

LOCATION: 11

NAME:

UTM: 6101820N/445078E

ACCESS: Bush plane to Dowling Lake and traverse.

AREA: South of the west end of Dowling Lake (Fig. 10-1)

AIRPHOTO: MB87009-90

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors, associated with volcanic and sedimentary rocks at the periphery of the Herblet Lake Gneiss Dome Complex, were delineated. A.L. Parres Ltd. staked claim Lym 13 in 1988. The claim was cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by white to light grey granitoid gneiss. These rocks are representative of the gneisses that characterize the core of the Herblet Lake Gneiss Dome Complex (Fig. 10-1; Bailes, 1975). In the immediate area of the occurrence, the grey granitoid gneiss contains zones of iron oxide stain that are localized adjacent to quartz veins and on fracture and joint planes.

MINERALIZATION:

Disseminated, 1 to 2%, pyrite occurs in wallrock adjacent to white, nonmineralized quartz veins.

GEOCHEMICAL DATA:

None.

CLASSIFICATION:

Vein type deposit; multiple veins or lenses. A disseminated pyrite halo is developed in wallrocks adjacent to nonmineralized quartz veins.

REFERENCES:

Assessment File 91624
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

LOCATION: 12

NAME:

UTM: 6101677N/444467E

ACCESS: Bush plane to Boutilier Lake or Dowling Lake and traverse.

AREA: Boutilier Lake (Fig. 10-1)

AIRPHOTO: MB87000-165

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors, associated with volcanic and sedimentary rocks at the periphery of the Herblet Lake Gneiss Dome Complex, were delineated. A.L. Parres Ltd. staked claim Lyp 12 in 1988. The claim was cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by white to light grey granitoid gneiss that is representative of the felsic gneisses that comprise the core of the Herblet Lake Gneiss Dome Complex in this area (Fig. 10-1, Bailes, 1975). With proximity to the occurrence, the grey granitoid gneiss is rusty weathered and forms an east-trending 60.9 m long linear zone (Fig. 12-1).

MINERALIZATION:

Disseminated pyrite, 1 to 2%, occurs within the linear rusty weathered zone in granitoid gneiss.

GEOCHEMICAL DATA:

A representative outcrop chip sample (04849) was collected for multi-element geochemical analysis from a rusty weathered zone adjacent to the linear zone of iron oxide stain. The sample contains low base and precious metals (Appendix I).

CLASSIFICATION:

Disseminated mineralization - not classified. The linear rusty weathered zone may represent a shear zone.

REFERENCES:

Assessment File 91624
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

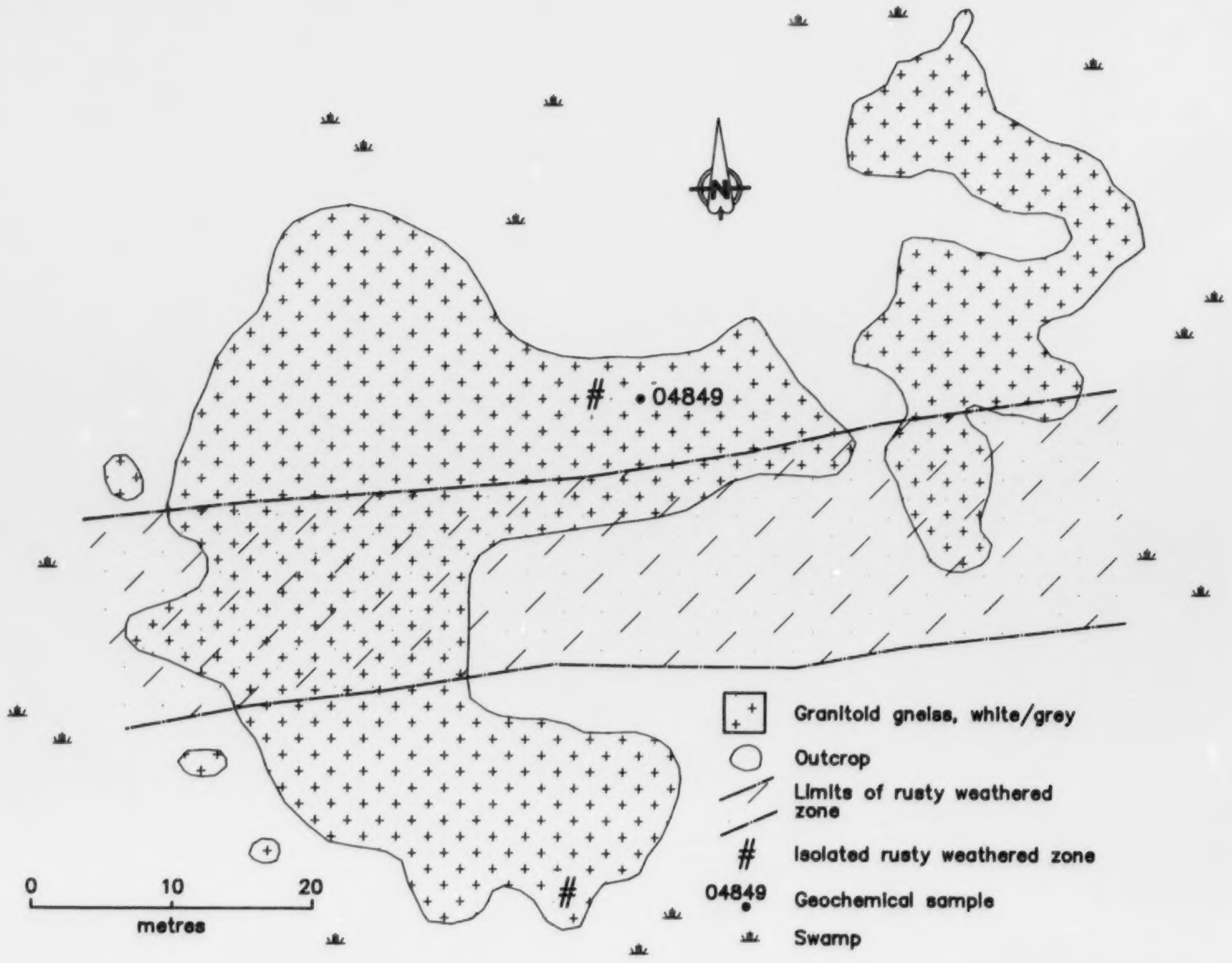

N
04849
0
10
20
metres
Granitoid gneiss, white/grey
Outcrop
Limits of rusty weathered zone
Isolated rusty weathered zone
04849
Geochemical sample
Swamp

Figure 12-1: Geology and sample location map, occurrence 12.

LOCATION: 13

NAME:

UTM: 6098470N/452400E

ACCESS: Bush plane to Pulver Lake and traverse.

AREA: Southwest of Pulver Lake

AIRPHOTO: MB87012-49

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors, associated with volcanic and sedimentary rocks at the periphery of the Herblet Lake Gneiss Dome Complex, were delineated. HBED staked CB10709 in 1980. The claim was cancelled in 1983.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by light grey to white granitoid gneiss, amphibolite gneiss, and pink granitoid gneiss. These three lithologic components characterize the Herblet Lake Gneiss Dome Complex in this area (Fig. 13-1; Bailes, 1975). Locally, silicified amphibolite gneiss has been mapped in the vicinity of the occurrence. (Fig. 13-2). The amphibolite gneiss contains 1 to 7 mm red garnets within fine- to coarse- grained alternating layers of amphibole and feldspar. Feldspar content varies from less than 1 to 50% of the rock. Gneissosity trends 050° to 075° and dips are vertical.

MINERALIZATION:

Disseminated pyrite occurs in close spatial association with 1 to 7 mm red garnets in the garnetiferous amphibolite. A strongly foliated rusty weathered zone with 1 to 2% disseminated pyrite and pyrrhotite occurs close to the contact between pink pegmatite and garnetiferous amphibolite. Pods and layers of white, non-mineralized quartz occur throughout all lithologies in the outcrop. Disseminated pyrite occurs at or near the quartz/wallrock contact where the quartz laminae and pods are developed within the amphibolite. A brick red, rusty weathered amphibolite gneiss, without visible sulphide mineralization, is present at this locality.

GEOCHEMICAL DATA:

Representative outcrop chip sample 04668 was collected for multi-element geochemical analysis. The sample contains low base and precious metals (Appendix I).

CLASSIFICATION:

Vein type deposit; multiple veins or lenses. Multiple quartz veins and lenses mineralized with iron sulphides in amphibolite gneiss. The linear rusty weathered zone may represent a shear zone.

REFERENCES:

Assessment File 91624
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

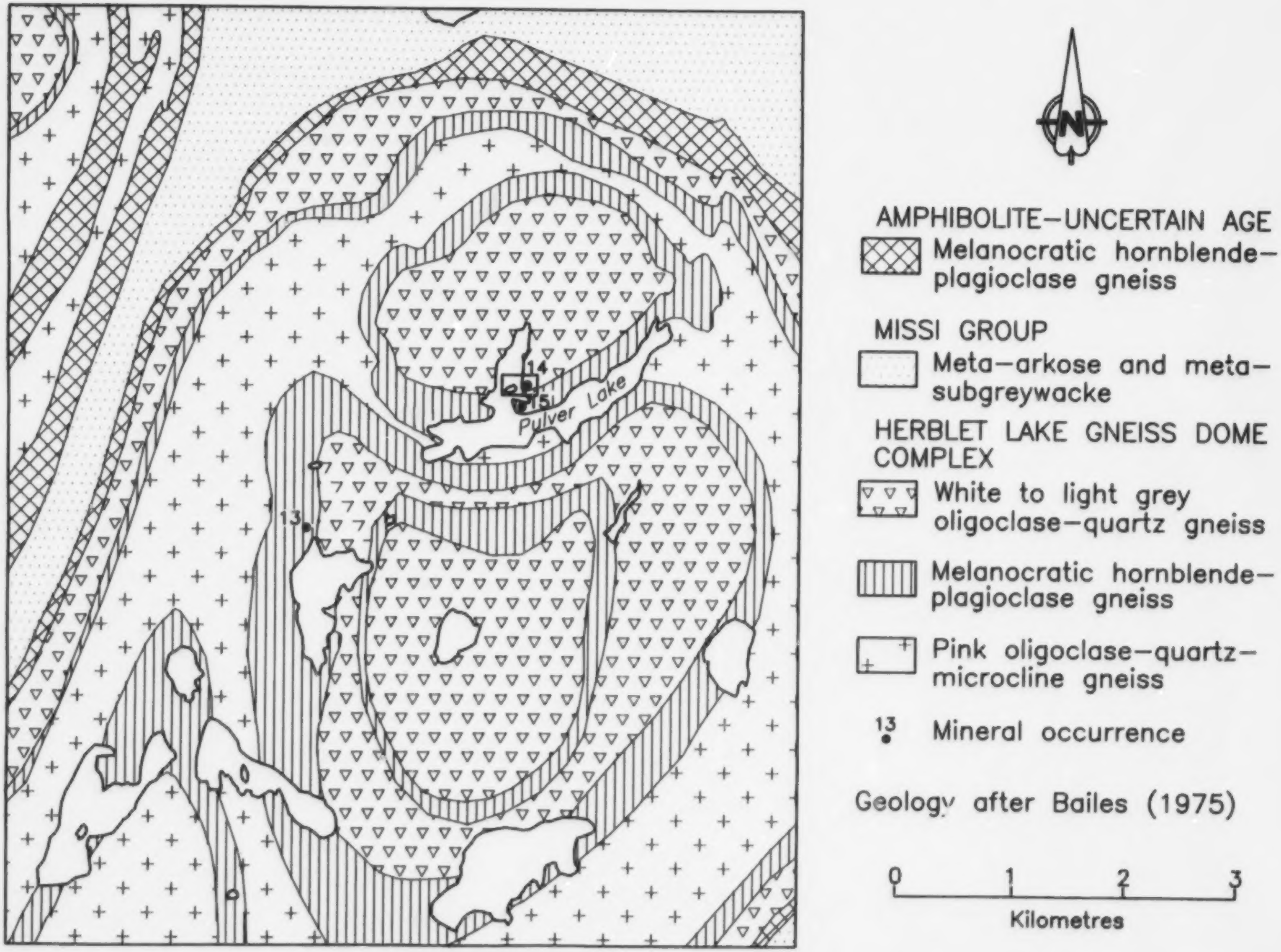

14
15
Pulver Lake
13
N
AMPHIBOLITE–UNCERTAIN AGE
▩ Melanocratic hornblende–plagioclase gneiss
MISSI GROUP
▢ Meta–arkose and meta–subgreywacke
HERBLET LAKE GNEISS DOME COMPLEX
▽ White to light grey oligoclase–quartz gneiss
▥ Melanocratic hornblende–plagioclase gneiss
+ Pink oligoclase–quartz–microcline gneiss
13 ● Mineral occurrence
Geology after Bailes (1975)
0
1
2
3
Kilometres

Figure 13-1: Geological setting of occurrences 13, 14 and 15.

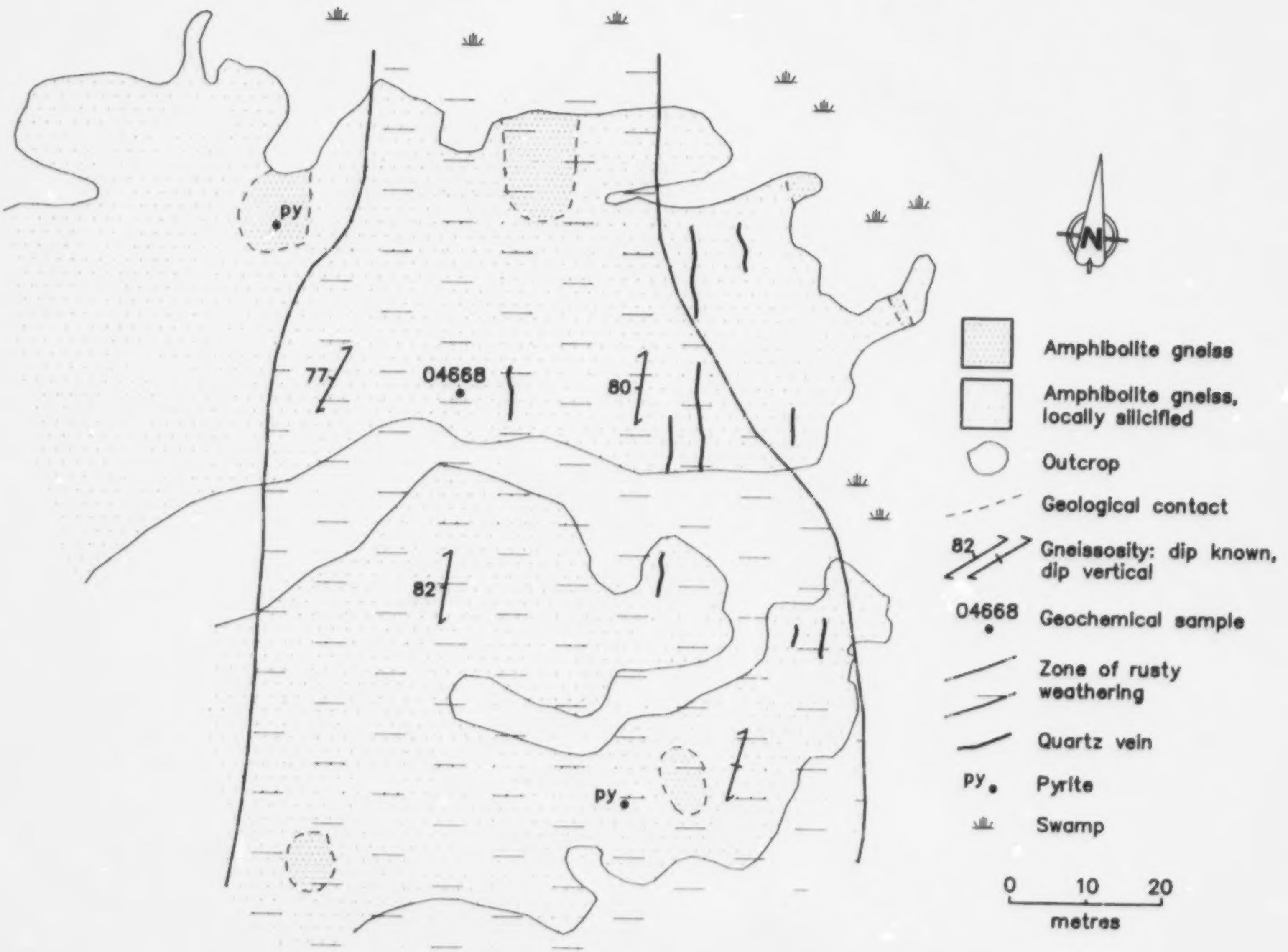

py
77
04668
80
82
py
N
Amphibolite gneiss
Amphibolite gneiss, locally silicified
Outcrop
Geological contact
82
Gneissosity: dip known, dip vertical
04668
Geochemical sample
Zone of rusty weathering
Quartz vein
py
Pyrite
Swamp
0
10
20
metres

Figure 13-2: Geology and sample location map, occurrence 13.

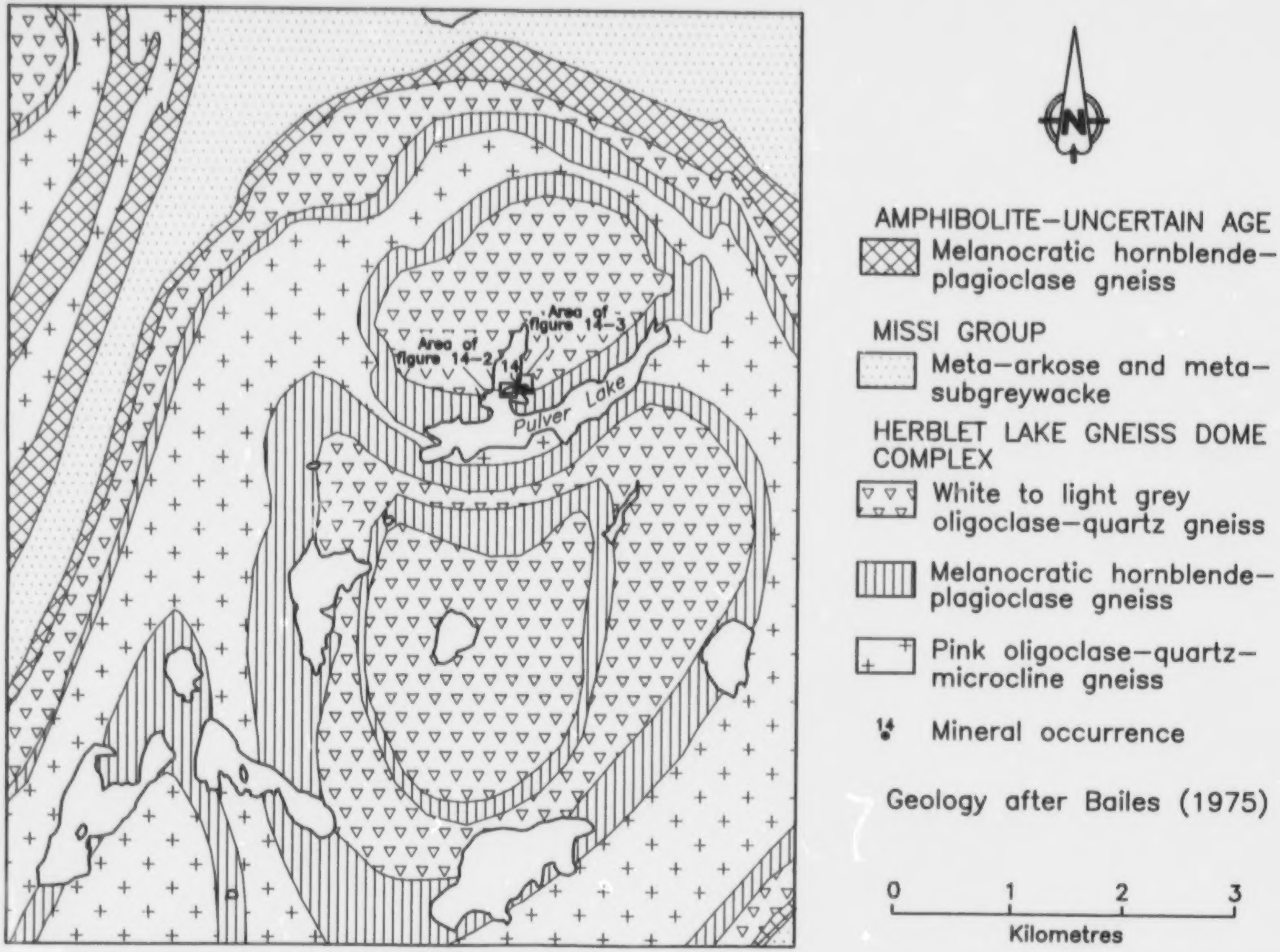

Area of figure 14-3
Area of figure 14-2
14
Pulver Lake
N
AMPHIBOLITE—UNCERTAIN AGE
▨ Melanocratic hornblende—plagioclase gneiss
MISSI GROUP
☐ Meta—arkose and meta—subgreywacke
HERBLET LAKE GNEISS DOME COMPLEX
▽ White to light grey oligoclase—quartz gneiss
▥ Melanocratic hornblende—plagioclase gneiss
+ Pink oligoclase—quartz—microcline gneiss
14 Mineral occurrence
Geology after Bailes (1975)
0
1
2
3
Kilometres

Figure 14-1: Index map for occurrence 14.

LOCATION: 14

NAME:

UTM: 6099614N/454271E

ACCESS: Bush plane to Pulver Lake and traverse.

AREA: Pulver Lake (Fig. 13-1)

AIRPHOTO: MB87012-108

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors, associated with volcanic and sedimentary rocks at the periphery of the Herblet Lake Gneiss Dome Complex, were delineated. A.L. Parres Ltd. staked claims Dul 1 and 2 in 1988. The claims were cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by light grey to white granitoid gneiss, amphibolite gneiss, and pink granitoid gneiss. These three lithologic components characterize the Herblet Lake Gneiss Dome Complex in this area (Fig. 13-1; Bailes, 1975). Mineralization is exposed on the mainland and on a small island in the north arm of Pulver Lake (Fig. 14-1). The occurrence comprises rusty weathered, garnetiferous linear zones (Fig. 14-2, 14-3) and nonmineralized to rusty weathered white quartz veins. The zones occur in granitoid and amphibolite gneiss that are characterized by the following mineralogies: 1) oligoclase-quartz-biotite ± amphibolite ± magnetite ± garnet, and 2) quartz-amphibolite ± garnet.

Orientation of the gneissosity in these units varies between 248° and 275° with near vertical dips. Minor rusty weathered amphibolite gneiss occurs locally. Wallrock adjacent to the quartz veins is commonly silicified.

MINERALIZATION:

Disseminated pyrite, 1%, with rare chalcopyrite occurs within the linear rusty weathered zones. Patchy yellow to brick red granitoid gneisses are characteristic of host rocks to the occurrence.

GEOCHEMICAL DATA:

Three representative outcrop chip samples (04669, 04670, 04671) were collected for multi-element geochemical analysis. Base and precious metals are low in samples 04669 and 04671. Sample 04670 contains 41 ppb Au.

CLASSIFICATION:

Vein type deposit; multiple veins or lenses. Widespread disseminated pyrite characterizes the rusty weathered wallrocks that host the quartz veins and lenses. The linear, rusty weathered zones may represent shear zones.

REFERENCES:

Assessment File 91624
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

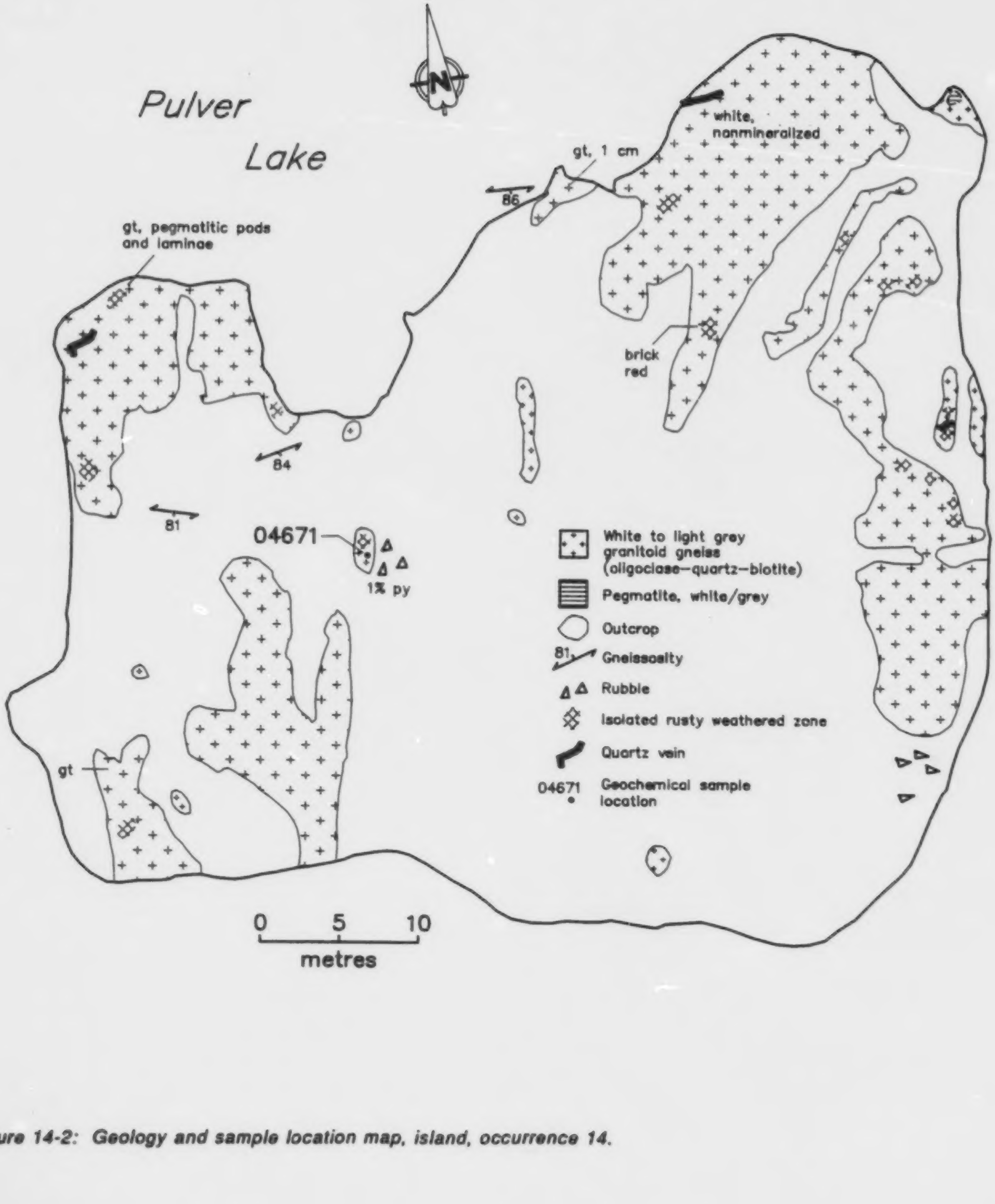

N
Pulver Lake
gt, pegmatitic pods and laminae
gt, 1 cm
86
white, nonmineralized
brick red
84
81
04671
1% py
gt
White to light grey granitoid gneiss (oligoclase–quartz–biotite)
Pegmatite, white/grey
Outcrop
81 Gneissosity
Rubble
Isolated rusty weathered zone
Quartz vein
04671 Geochemical sample location
0
5
10
metres

Figure 14-2: Geology and sample location map, island, occurrence 14.

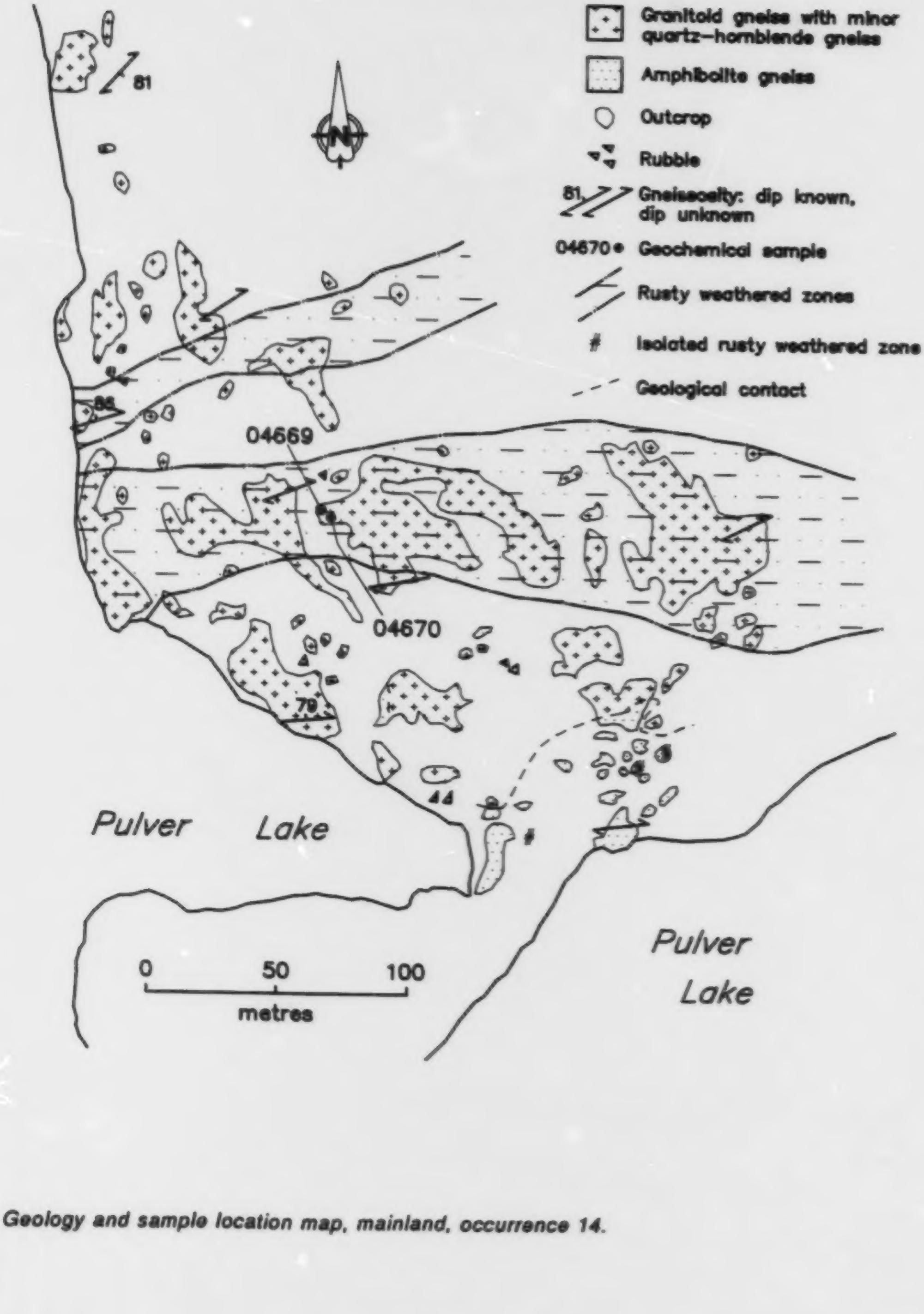

Granitoid gneiss with minor quartz–hornblende gneiss
Amphibolite gneiss
Outcrop
Rubble
81 Gneissosity: dip known, dip unknown
04670 ● Geochemical sample
Rusty weathered zones
# Isolated rusty weathered zone
Geological contact
N
81
86
79
04669
04670
Pulver Lake
Pulver Lake
0
50
100
metres

Figure 14-3: Geology and sample location map, mainland, occurrence 14.

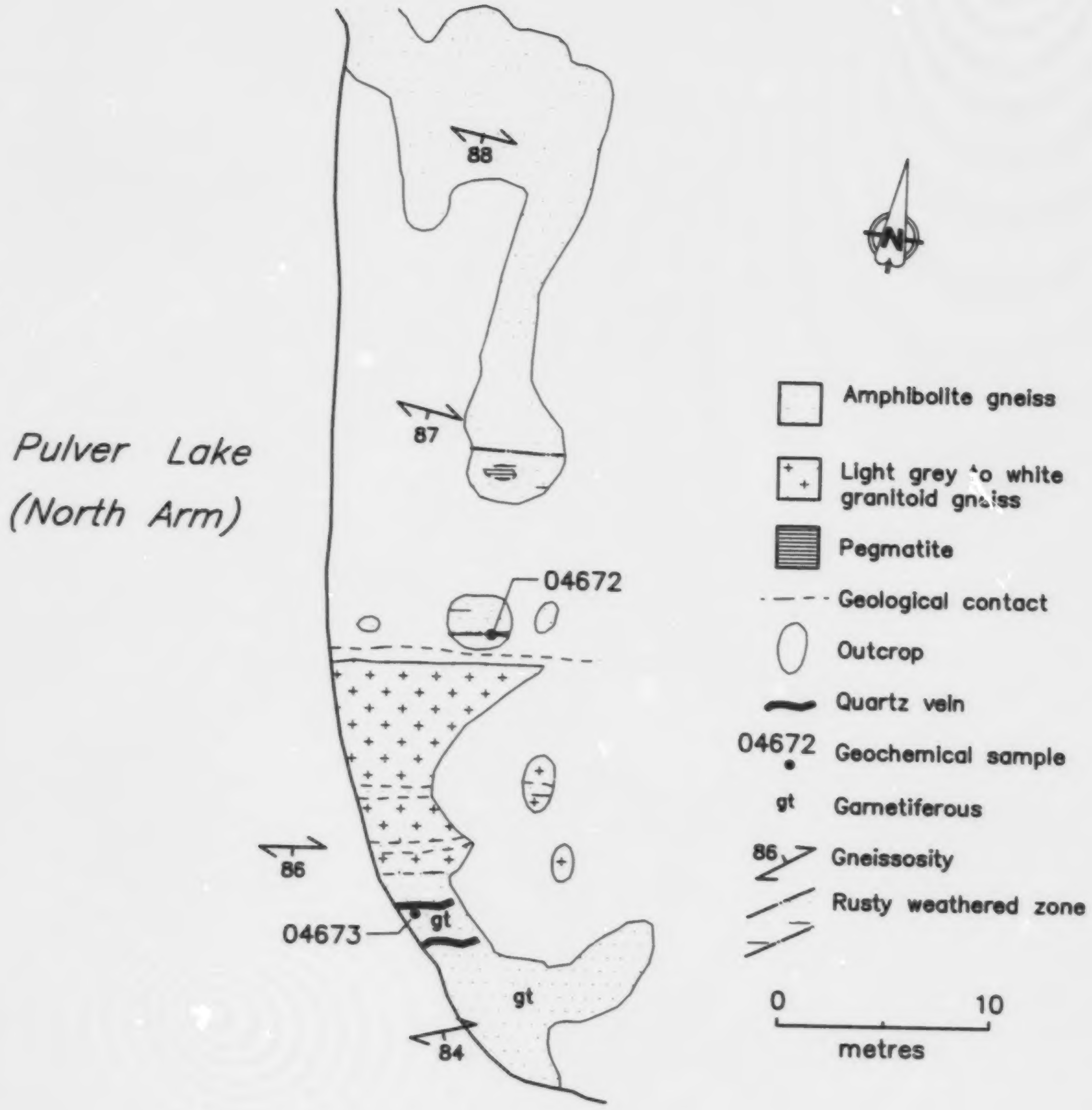

Pulver Lake
(North Arm)
88
87
86
84
04672
04673
gt
gt
N
Amphibolite gneiss
Light grey to white granitoid gneiss
Pegmatite
Geological contact
Outcrop
Quartz vein
04672
Geochemical sample
gt
Garnetiferous
86
Gneissosity
Rusty weathered zone
0
10
metres

Figure 15-1: Geology and sample location map, occurrence 15.

LOCATION: 15

NAME:

UTM: 6099436N/454230E

ACCESS: Bush plane to Pulver Lake and traverse.

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors, associated with volcanic and sedimentary rocks at the periphery of the Herblet Lake Gneiss Dome Complex, were delineated. A.L. Parres Ltd. staked claim Dul 1 in 1988. The claim was cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by light grey to white granitoid gneiss, amphibolite gneiss and pink granitoid gneiss. These three lithologic components characterize the Herblet Lake Gneiss Dome Complex in this area (Fig. 13-1; Bailes, 1975). In the immediate area of the occurrence, the lithologic assemblage is characterized by interlayered amphibolite and granitoid gneiss (Fig. 15-1). Both lithologies contain garnetiferous, rusty weathered or strongly foliated zones. These units are silicified adjacent to quartz veins. Gneissosity trends 260° to 273° and dips near vertical.

AREA: Pulver Lake

AIRPHOTO: MB87012-108

MINERALIZATION:

The occurrence is characterized by 1 to 2% disseminated pyrite in rusty weathered to brick red amphibolite gneiss. White quartz veins are not mineralized.

GEOCHEMICAL DATA:

Two representative outcrop chip samples (04672 and 04673) were collected for multi-element geochemical analysis. The samples contain low base and precious metals (Appendix I).

CLASSIFICATION:

Disseminated mineralization - not classified. The linear, rusty weathered zones may represent shear zones.

REFERENCES:

Assessment File 91624

Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.

1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

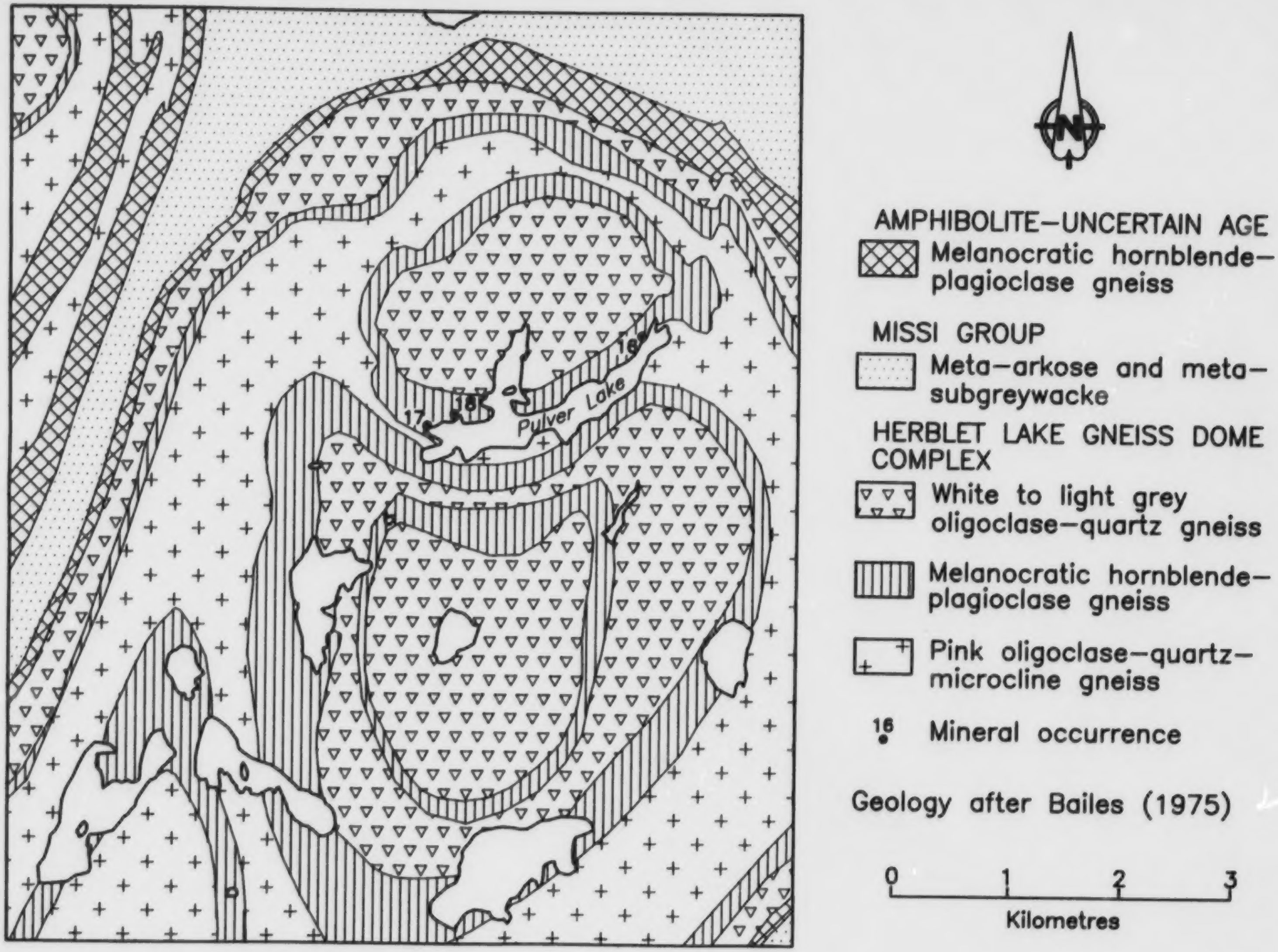

N
Pulver Lake
16
17
18
AMPHIBOLITE–UNCERTAIN AGE
Melanocratic hornblende–plagioclase gneiss
MISSI GROUP
Meta–arkose and meta–subgreywacke
HERBLET LAKE GNEISS DOME COMPLEX
White to light grey oligoclase–quartz gneiss
Melanocratic hornblende–plagioclase gneiss
Pink oligoclase–quartz–microcline gneiss
16 Mineral occurrence
Geology after Bailes (1975)
0
1
2
3
Kilometres

Figure 16-1: Geological setting of occurrences 16, 17 and 18.

LOCATION: 16

NAME:

UTM: 6100031N/455349E

ACCESS: Bush plane to Pulver Lake and traverse.

AREA: Pulver Lake

AIRPHOTO: MB87012-108

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors, associated with volcanic and sedimentary rocks at the periphery of the Herblet Lake Gneiss Dome Complex, were delineated. HBED staked CB 10727 in 1980. The claim was cancelled in 1983.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by light grey to white granitoid gneiss, amphibolite gneiss and pink granitoid gneiss. These three lithologic components characterize the Herblet Lake Gneiss Dome Complex in this area (Fig. 16-1; Bailes, 1975). Amphibolite gneiss, intermediate gneiss, siliceous gneiss and pegmatite are present at the occurrence (Fig. 16-2). The intermediate gneiss appears gradational in composition between mafic amphibolite gneiss and cherty siliceous gneiss. The siliceous gneiss may be an altered equivalent of the amphibolite gneiss. Gneissosity varies from 250° to 273° and dips near vertical.

MINERALIZATION:

Disseminated pyrite, 1 to 3%, occurs within strongly foliated linear zones in amphibolite gneiss. The zones are developed close to the contact between pink pegmatite and amphibolite gneiss (Fig. 16-2). Patchy rusty weathered zones and brick red zones without visible sulphide mineralization are developed in the amphibolite gneiss.

GEOCHEMICAL DATA:

Representative outcrop chip samples 04674 and 04675 were collected from the linear rusty weathered zones for multi-element geochemical analysis. The samples contain low base and precious metals (Appendix I).

CLASSIFICATION:

Disseminated mineralization - not classified. The proximity of the rusty weathered pyritic zones to the contact between pegmatite and amphibolite gneiss suggests the mineralization may be related to emplacement of the pegmatite, i.e., the pegmatite may have been intruded along a shear zone. Alternatively, the linear, rusty weathered zone may represent a shear zone.

REFERENCES:

Assessment File 91624
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

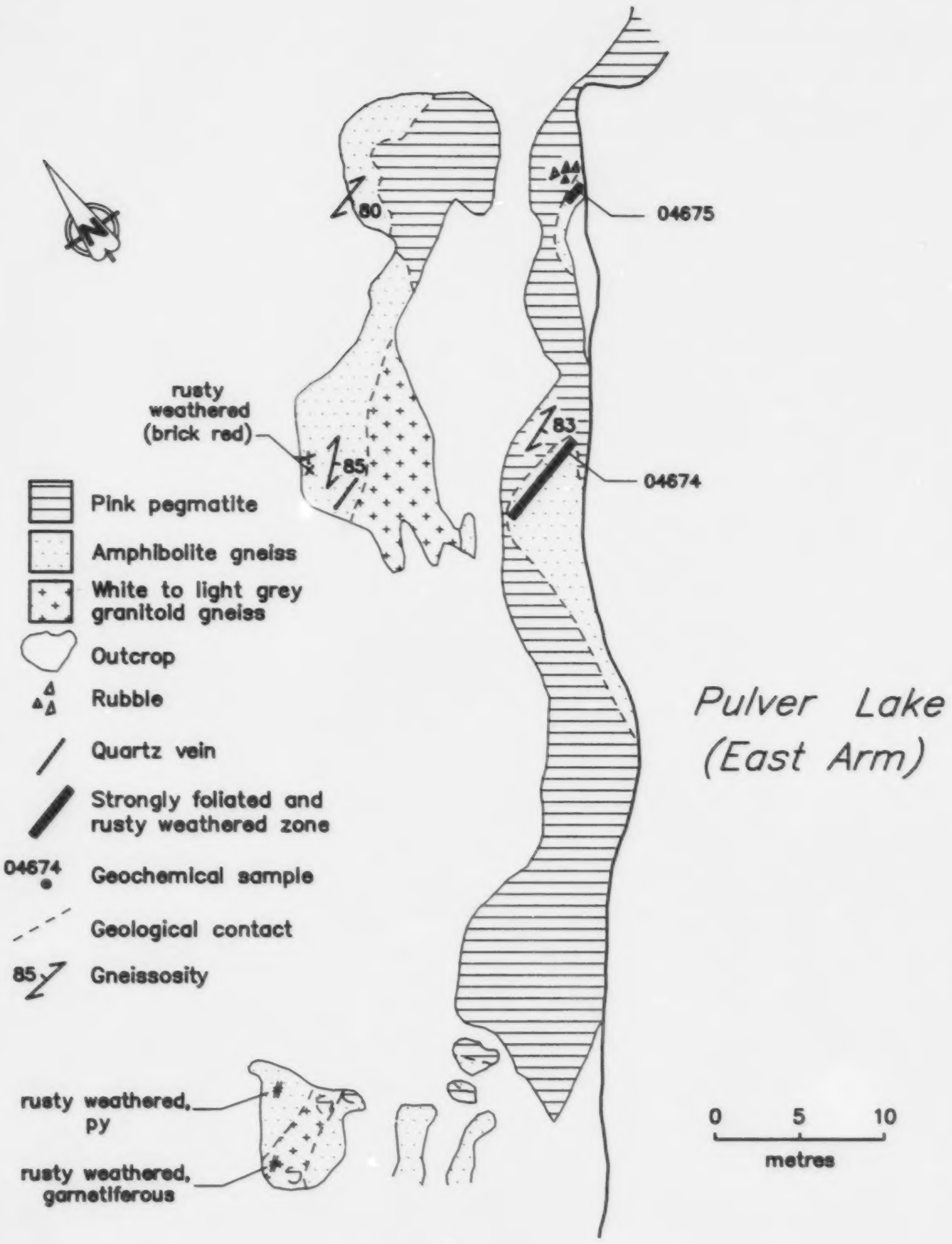

80
04675
rusty
weathered
(brick red)
85
83
04674
Pink pegmatite
Amphibolite gneiss
White to light grey
granitoid gneiss
Outcrop
Rubble
Quartz vein
Strongly foliated and
rusty weathered zone
04674
Geochemical sample
Geological contact
85
Gneissosity
Pulver Lake
(East Arm)
rusty weathered,
py
rusty weathered,
garnetiferous
0
5
10
metres

Figure 16-2: Geology and sample location map, occurrence 16.

LOCATION: 17

NAME:

UTM: 6099225N/453413E

ACCESS: Bush plane to Pulver Lake and traverse.

AREA: Pulver Lake (Fig 16-1)

AIRPHOTO: MB87012-108

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors, associated with volcanic and sedimentary rocks at the periphery of the Herblet Lake Gneiss Dome Complex, were delineated. A.L. Parres Ltd. staked claim Dul 1 in 1988. The claim was cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by light grey to white granitoid gneiss, amphibolite gneiss and pink granitoid gneiss. These three lithologic components characterize the Herblet Lake Gneiss Dome Complex in this area (Fig. 16-1; Bailes, 1975). Rusty weathered amphibolite gneiss and white to grey siliceous gneiss are present in the area of the occurrence (Fig. 17-1). Gneissosity varies from 270° to 296° and dips near vertical. Small pods and lenses of pink pegmatite and white nonmineralized quartz are common.

MINERALIZATION:

Disseminated pyrite, 1 to 2%, occurs in rusty weathered quartz lenses and in amphibolite gneiss adjacent to the lenses. The quartz lenses are discontinuous and generally less than 0.5 m long and 10 cm wide. Rusty weathered quartz veins without visible sulphide mineralization are present in siliceous gneiss. The amphibolite gneiss is rusty weathered to brick red at the occurrence and lacks visible sulphide minerals.

GEOCHEMICAL DATA:

Representative outcrop chip samples 04801 and 04802, from white, nonmineralized quartz veins in brick red amphibolite, were collected for multi-element geochemical analysis. The samples contain low base and precious metals (Appendix I).

CLASSIFICATION:

Vein type deposit; multiple veins or lenses. The multiple quartz veins are hosted by rusty weathered amphibolite.

REFERENCES:

Assessment File 91624
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

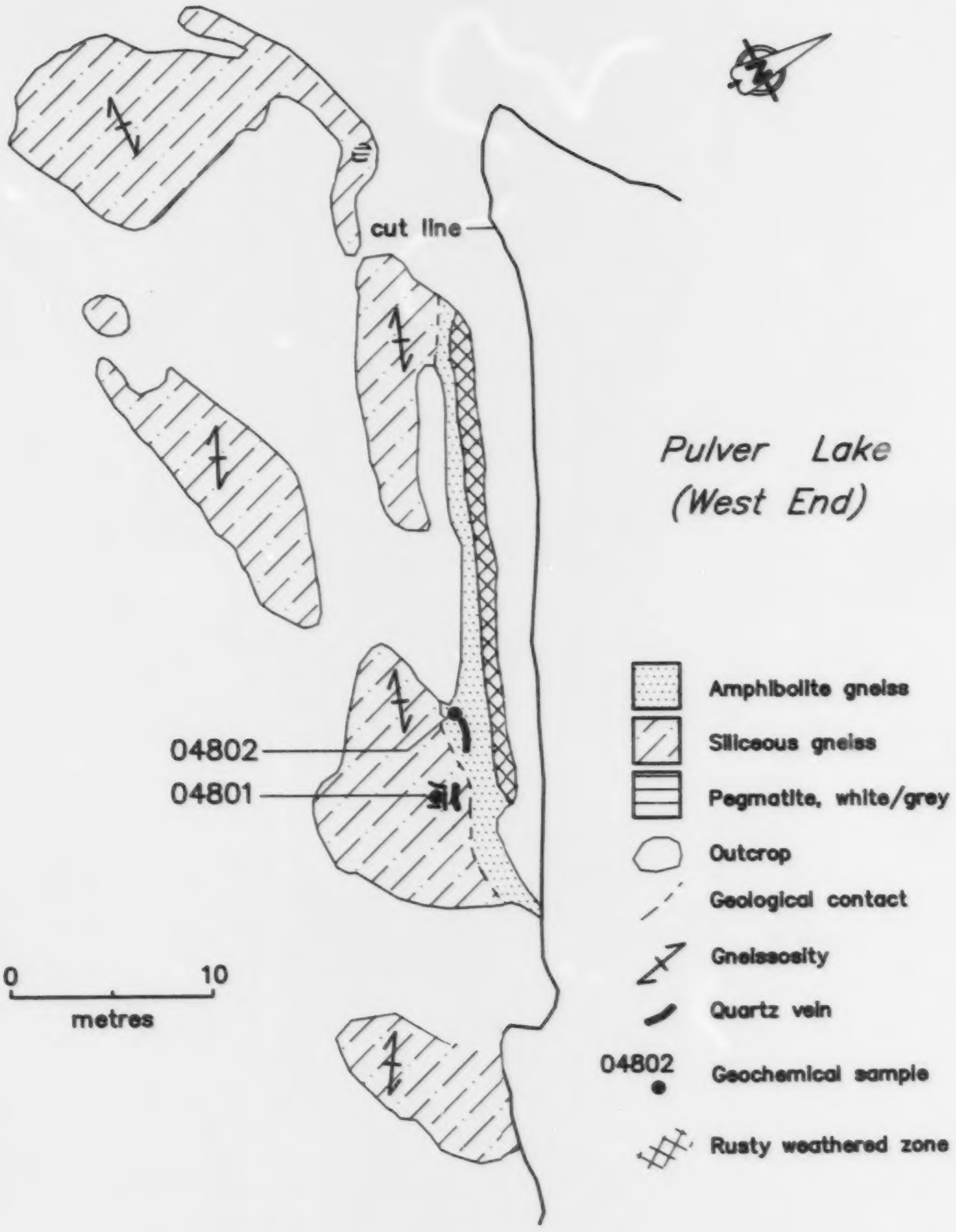

cut line
Pulver Lake
(West End)
04802
04801
0
10
metres
Amphibolite gneiss
Siliceous gneiss
Pegmatite, white/grey
Outcrop
Geological contact
Gneissosity
Quartz vein
04802
Geochemical sample
Rusty weathered zone

Figure 17-1: Geology and sample location map, occurrence 17.

LOCATION: 18

NAME:

UTM: 6099375N/453675E

ACCESS: Bush plane to Pulver Lake and traverse.

AREA: Pulver Lake (Fig. 16-1)

AIRPHOTO: MB87012-108

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors, associated with volcanic and sedimentary rocks at the periphery of the Herblet Lake Gneiss Dome Complex, were delineated. A.L. Parres Ltd. staked claim Dul 1 in 1988. The claim was cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by light grey to white granitoid gneiss, amphibolite gneiss and pink granitoid gneiss. These three lithologic components characterize the Herblet Lake Gneiss Dome Complex in this area (Fig. 16-1; Bailes, 1975). In the area of the occurrence, the grey granitoid gneiss contains garnet and magnetite. Red garnets occur primarily in rusty weathered zones and vary from 2 mm to 2 cm in diameter. Magnetite is present as 1 mm subhedral to euhedral grains or aggregates. Gneissosity in the host rocks varies between 267° and 281° and has a near vertical dip (Fig. 18-1).

MINERALIZATION:

Patchy, rusty weathered to persistent linear zones, with mineralized and nonmineralized, boudinaged white quartz veins characterize the occurrence (Fig. 18-1, 18-2). Up to 5% pyrite occurs in the quartz veins and wall rock.

GEOCHEMICAL DATA:

Representative outcrop chip samples 04803, 04839 and 04840 were collected from rusty weathered granitoid gneiss for multi-element geochemical analysis. Samples 04839 and 04840 are a mixture of pyritic quartz vein and rusty weathered wallrock. The samples contain low base and precious metals (Appendix I).

CLASSIFICATION:

Disseminated mineralization - not classified. The bulk of the sulphide mineralization is unrelated to the presence of quartz veins. Rusty weathered zones are pervasive and generally are not spatially associated with quartz veins. These linear, rusty weathered zones may represent shear zones.

REFERENCES:

Assessment File 91624

Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.

1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

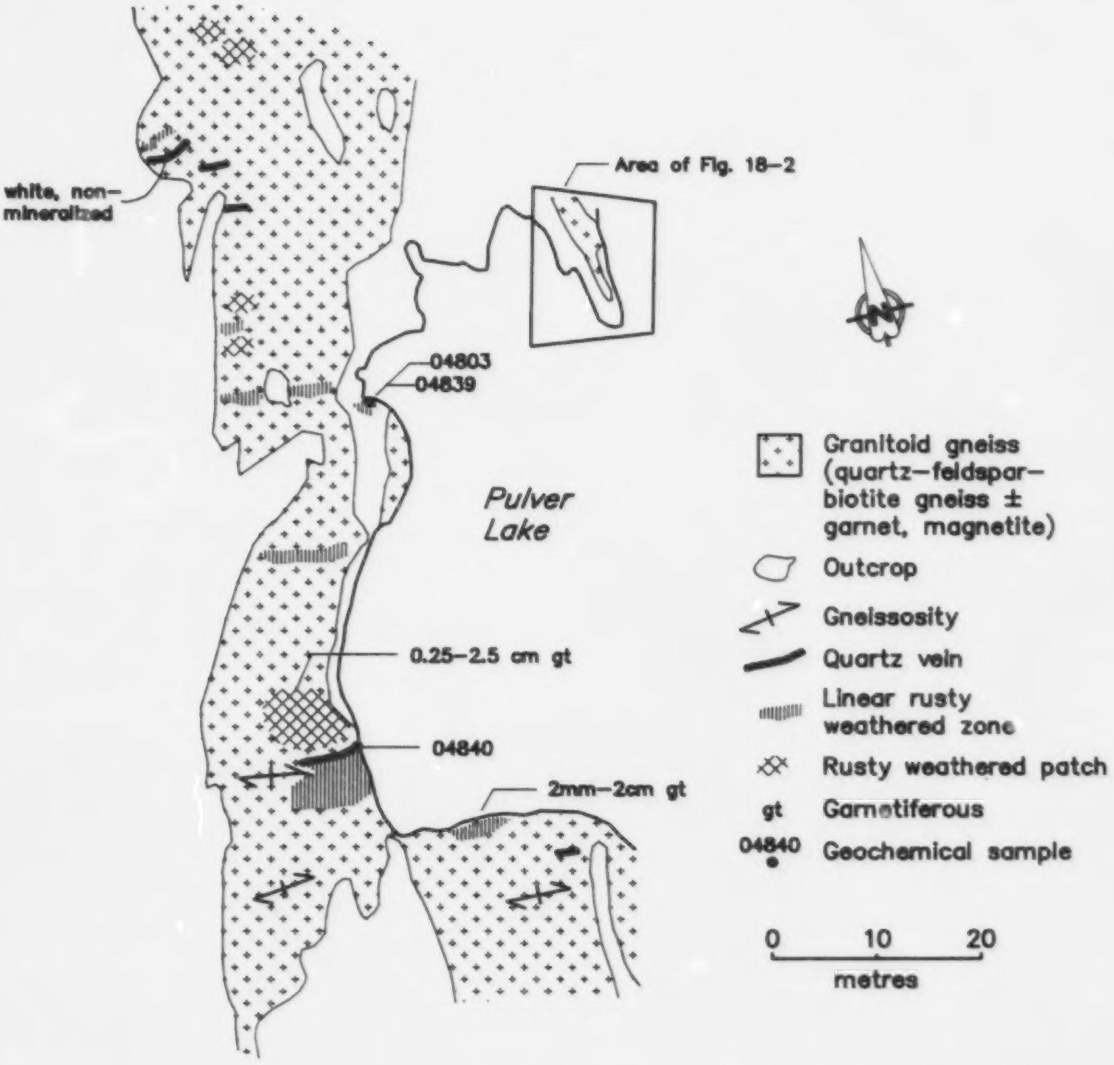

white, non-mineralized
Area of Fig. 18-2
04803
04839
Pulver Lake
0.25-2.5 cm gt
04840
2mm-2cm gt
Granitoid gneiss (quartz-feldspar-biotite gneiss ± garnet, magnetite)
Outcrop
Gneissosity
Quartz vein
Linear rusty weathered zone
Rusty weathered patch
gt Garnetiferous
04840 Geochemical sample
0 10 20
metres

Figure 18-1: Geology and sample location map, occurrence 18.

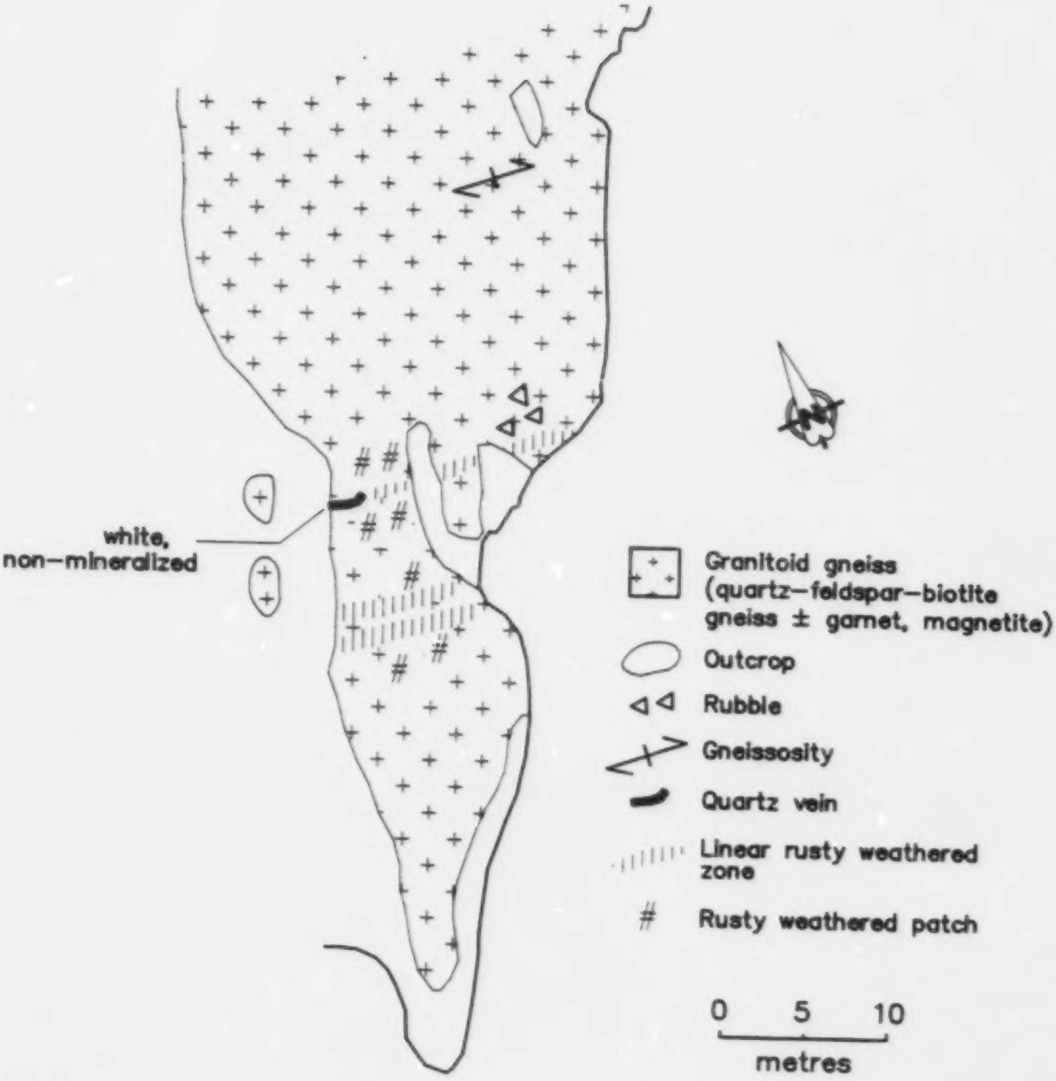

white,
non–mineralized
Granitoid gneiss
(quartz–feldspar–biotite
gneiss ± garnet, magnetite)
Outcrop
Rubble
Gneissosity
Quartz vein
Linear rusty weathered
zone
Rusty weathered patch
0
5
10
metres

Figure 18-2: Geology map of part of occurrence 18.

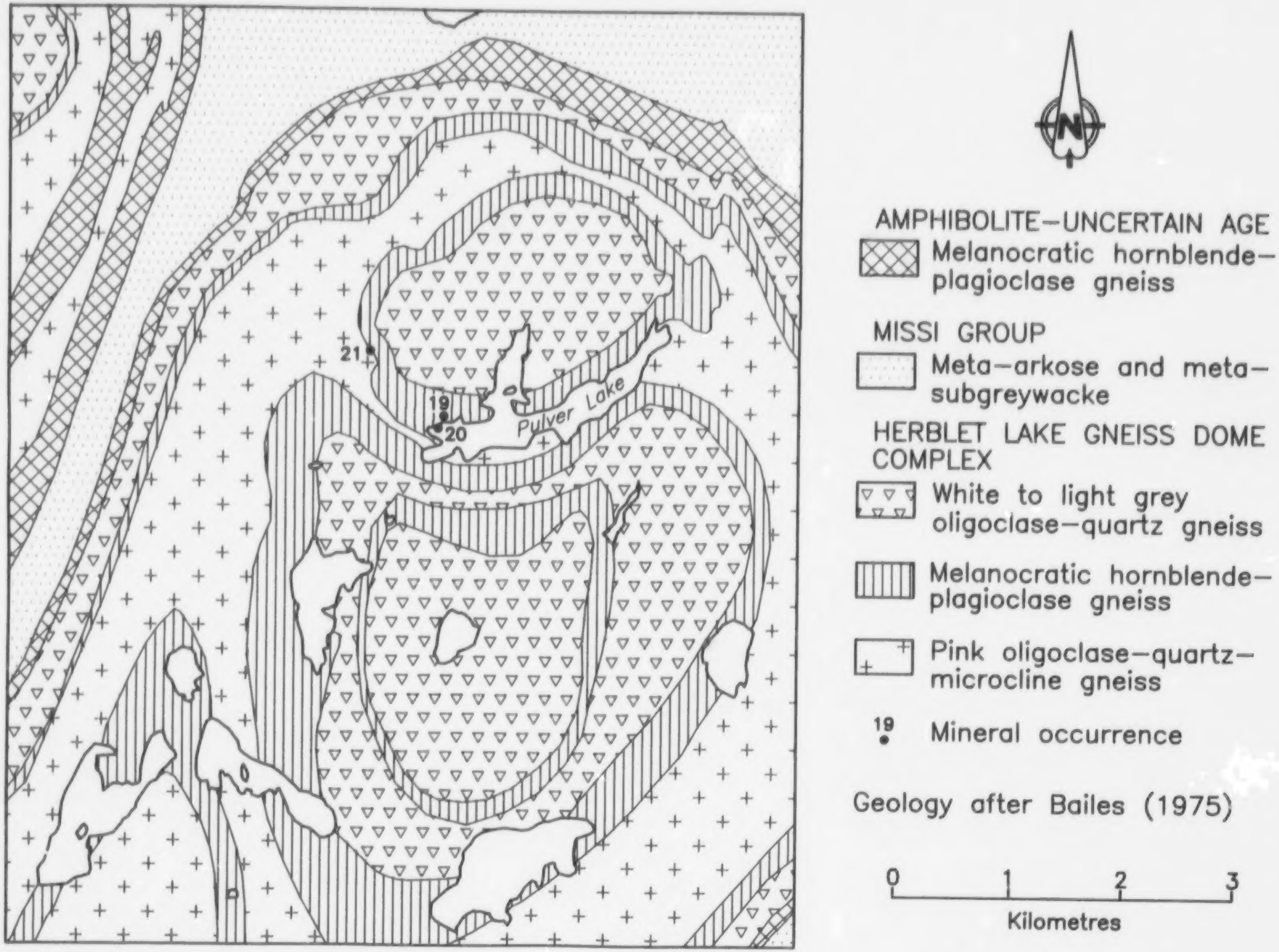

N
AMPHIBOLITE–UNCERTAIN AGE
Melanocratic hornblende–plagioclase gneiss
MISSI GROUP
Meta–arkose and meta–subgreywacke
HERBLET LAKE GNEISS DOME COMPLEX
White to light grey oligoclase–quartz gneiss
Melanocratic hornblende–plagioclase gneiss
Pink oligoclase–quartz–microcline gneiss
19 Mineral occurrence
Geology after Bailes (1975)
0
1
2
3
Kilometres
Pulver Lake
19
20
21

Figure 19-1: Geological setting of occurrences 19, 20 and 21.

LOCATION: 19

NAME:

UTM: 6099333N/453545E

ACCESS: Bush plane to Pulver Lake and traverse.

AREA: Pulver Lake

AIRPHOTO: MB87012-108

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors, associated with volcanic and sedimentary rocks at the periphery of the Herblet Lake Gneiss Dome Complex, were delineated. A.L. Parres Ltd. staked claim Dul 1 in 1988. The claim was cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by light grey to white granitoid gneiss, amphibolite gneiss and pink granitoid gneiss. These three lithologic components characterize the Herblet Lake Gneiss Dome Complex in this area (Fig. 19-1; Bailes, 1975). Amphibolite gneiss, amphibole-feldspar (intermediate) gneiss and light grey granitoid gneiss are present in the area of the occurrence (Fig. 19-2). Quartz-feldspar segregations, 1 mm to 0.5 cm wide and 10 to 15 cm long, are common in the granitoid and intermediate gneiss. Patchy rusty weathered zones are common in all lithologies.

MINERALIZATION:

Rusty weathered, strongly foliated zones granitoid, and amphibole-feldspar gneiss contain up to 5% pyrite. Amphibolite gneiss commonly contains brick red zones that do not contain visible sulphide minerals.

GEOCHEMICAL DATA:

Representative outcrop chip sample 04804 was collected from a linear rusty weathered zone in granitoid gneiss for multi-element geochemical analysis. The sample contains low precious metals and 973 ppm Cu (Appendix I).

CLASSIFICATION:

Disseminated mineralization - not classified.

REFERENCES:

Assessment File 91624

Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.

1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

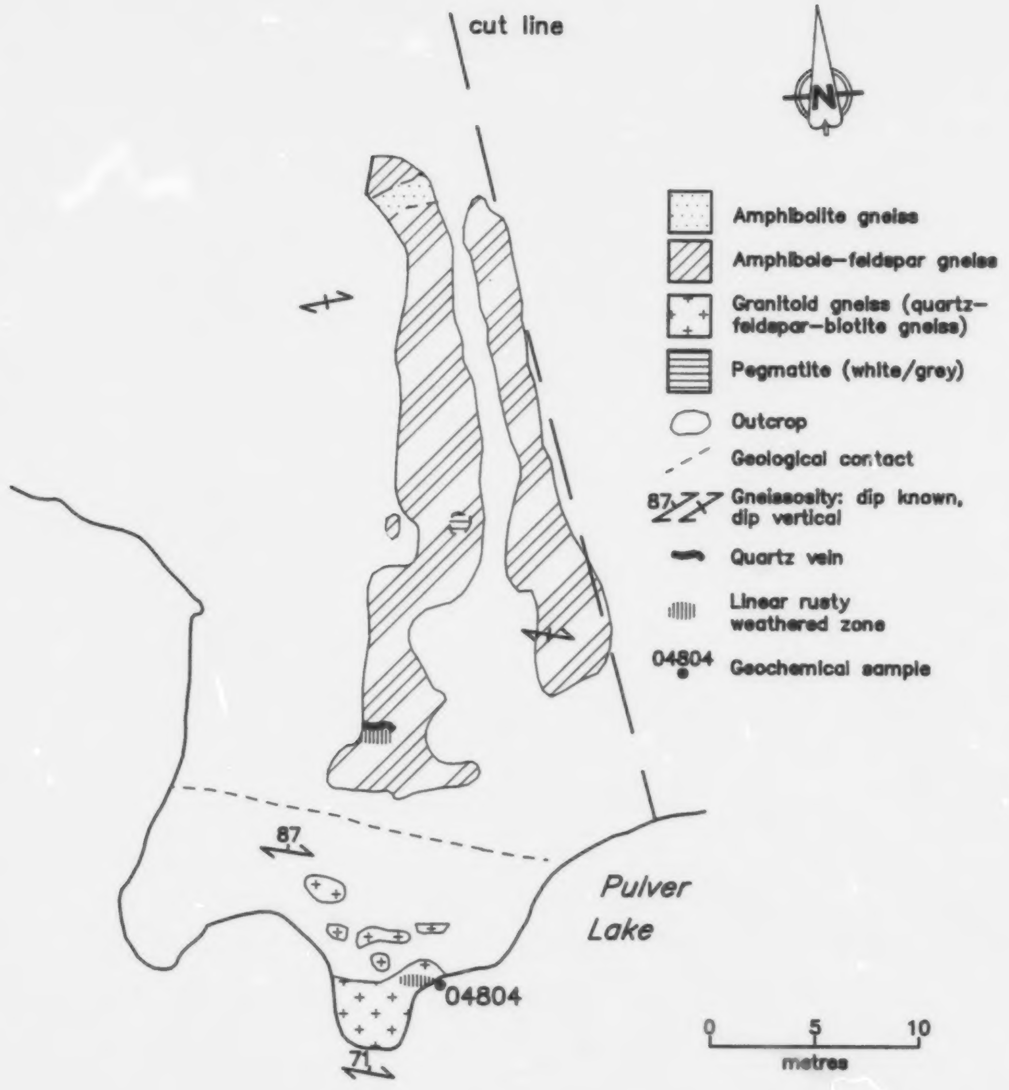

cut line
N
Amphibolite gneiss
Amphibole–feldspar gneiss
Granitoid gneiss (quartz–feldspar–biotite gneiss)
Pegmatite (white/grey)
Outcrop
Geological contact
87 Gneissosity: dip known, dip vertical
Quartz vein
Linear rusty weathered zone
04804 Geochemical sample
87
71
04804
Pulver Lake
0
5
10
metres

Figure 19-2: Geology and sample location map, occurrence 19.

LOCATION: 20

NAME:

UTM: 6099280N/453480E

ACCESS: Bush plane to Pulver Lake and traverse.

AREA: Pulver Lake (Fig. 19-1)

AIRPHOTO: MB87012-108

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors, associated with volcanic and sedimentary rocks at the periphery of the Herblet Lake Gneiss Dome Complex, were delineated. A.L. Parres Ltd. staked claim Dul 1 in 1988. The claim was cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by white to light grey granitoid gneiss, amphibolite gneiss and pink granitoid gneiss. These three lithologic components characterize the Herblet Lake Gneiss Dome Complex in this area (Fig. 19-1; Bailes, 1975). Rusty weathered quartz-feldspar-biotite gneiss that trends 271° to 306° and has near vertical dips is present in the immediate vicinity of the occurrence (Fig. 20-1). Deformed quartz-feldspar segregations and abundant quartz veins occur in the granitoid gneiss.

MINERALIZATION:

An intensely altered 1.0 to 1.5 m wide zone consists of white micas, clays and 10% disseminated pyrite. Host rocks adjacent to the pyritic, white mica zone are brick red. This zone extends to the east under Pulver Lake and to the west under swamp. White, non-mineralized quartz veins, 2 to 5 cm wide, are present in the general area of the occurrence. Extensive iron oxide stained granitoid gneiss is common in the area.

GEOCHEMICAL DATA:

Three representative outcrop chip samples (04805, 04806, 04807) were collected from the occurrence for multi-element geochemical analysis. The samples contain low base and precious metals (Appendix I).

CLASSIFICATION:

Chemical sediment type deposit; sulphide facies iron formation.

REFERENCES:

Assessment File 91624
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

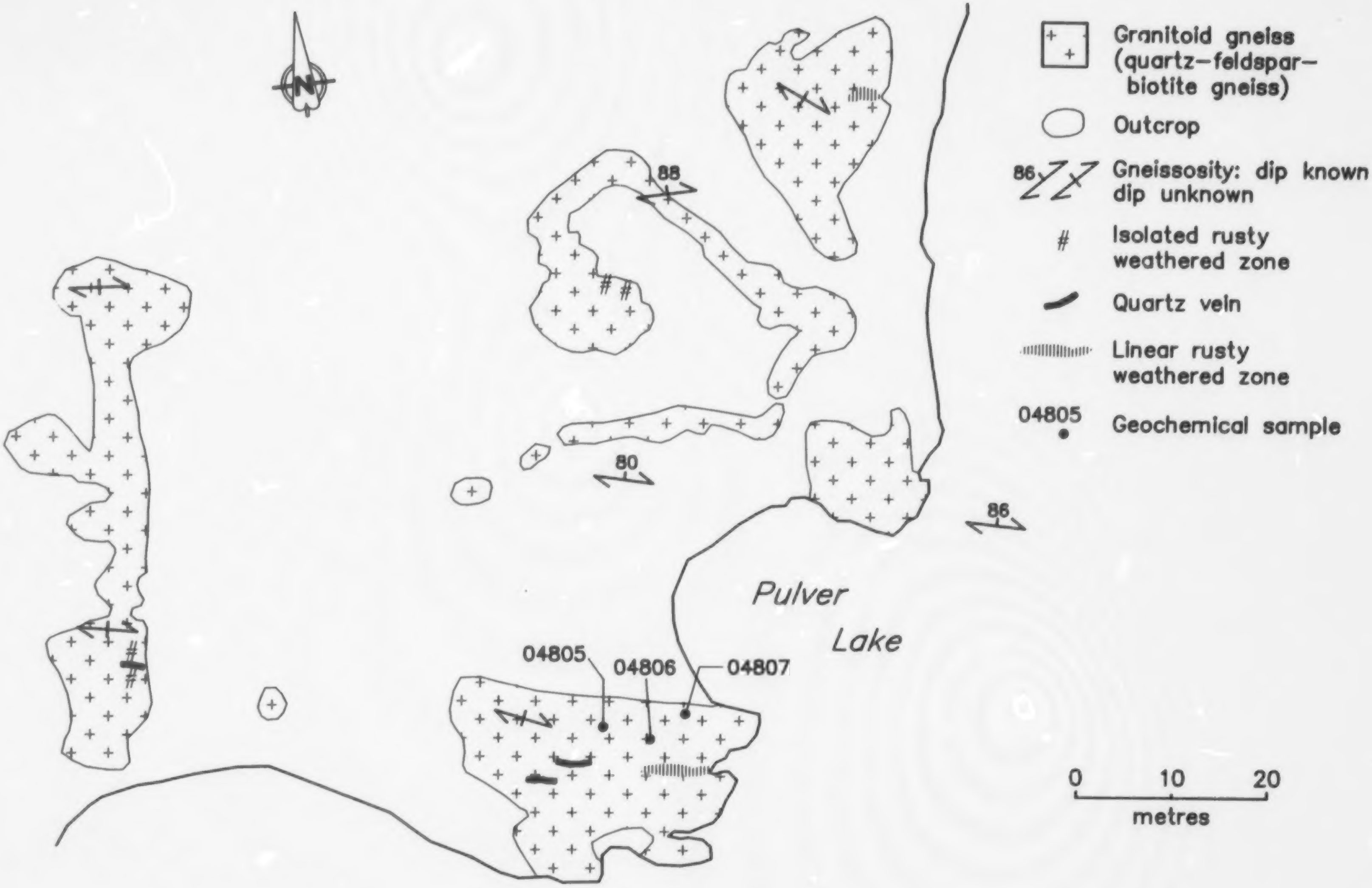

N
Granitoid gneiss (quartz–feldspar–biotite gneiss)
Outcrop
86 Gneissosity: dip known dip unknown
# Isolated rusty weathered zone
Quartz vein
Linear rusty weathered zone
04805 Geochemical sample
0
10
20
metres
88
80
86
Pulver Lake
04805
04806
04807

Figure 20-1: Geology and sample location map, occurrence 20.

LOCATION: 21

NAME:

UTM: 6099882N/453058E

ACCESS: Bush plane to Pulver Lake and traverse.

AREA: Pulver Lake (Fig. 19-1)

AIRPHOTO: MB87012-108

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors, associated with volcanic and sedimentary rocks at the periphery of the Herblet Lake Gneiss Dome Complex, were delineated. A.L. Parres Ltd. staked claim Dul 1 in 1988. The claim was cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by white to light grey granitoid gneiss, amphibolite gneiss and pink granitoid gneiss. These three lithologic components characterize the Herblet Lake Gneiss Dome Complex in this area (Fig. 19-1; Bailes, 1975). White to light grey and pink granitoid gneisses, and massive foliated pink granitic gneiss are present in the area of the occurrence (Fig. 21-1). The pink granitoid gneiss has been intruded by white pegmatite dykes. The gneisses trend 322° and dip 72° north.

MINERALIZATION:

Brick red and yellow iron-oxide stain with 1 to 2% disseminated pyrite occur in 4 by 1 m zones that are scattered across outcrops of both white to light grey and pink granitoid gneiss. Up to 2 cm, white, nonmineralized quartz veins are also present in the area of the iron oxide stain. The white to grey granitoid gneiss contains most of the rusty weathered zones.

GEOCHEMICAL DATA:

Representative outcrop chip sample 04808 was collected from the rusty weathered grey granitoid gneiss for multi-element geochemical analysis. The sample contains low base and precious metals (Appendix I).

CLASSIFICATION:

Disseminated mineralization - not classified.

REFERENCES:

Assessment File 91624
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

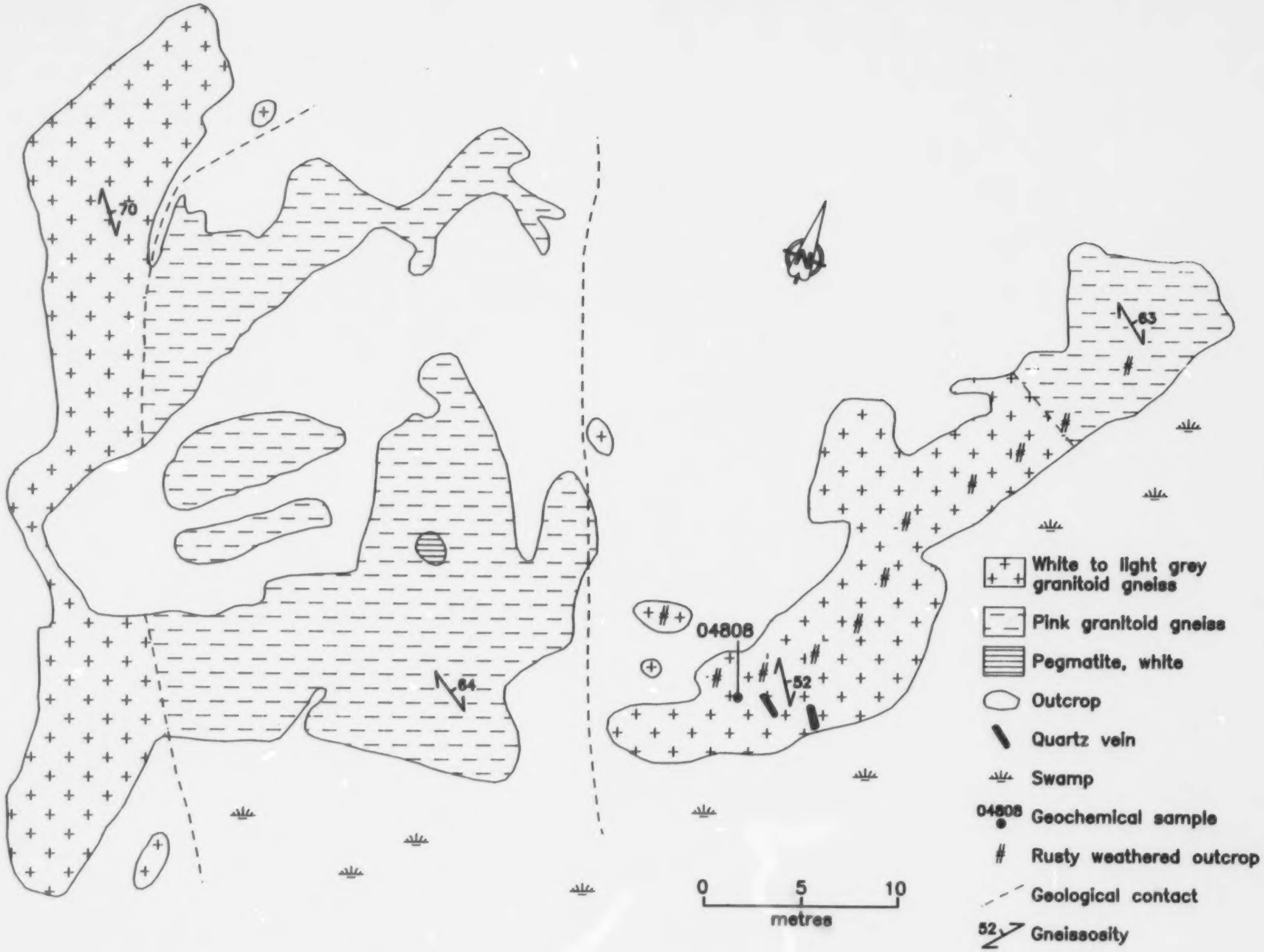

70
64
63
52
04808
0
5
10
metres
White to light grey granitoid gneiss
Pink granitoid gneiss
Pegmatite, white
Outcrop
Quartz vein
Swamp
04808 Geochemical sample
Rusty weathered outcrop
Geological contact
52 Gneissosity

Figure 21-1: Geology and sample location map, occurrence 21.

LOCATION: 22

NAME:

UTM: 6099053N/454006E

ACCESS: Bush plane to Pulver Lake and traverse.

AREA: Pulver Lake

AIRPHOTO: MB87012-108

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors, associated with volcanic and sedimentary rocks at the periphery of the Herblet Lake Gneiss Dome Complex, were delineated. A.L. Parres Ltd. staked claim Dul 1 in 1988. The claim was cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by white to light grey granitoid gneiss, amphibolite gneiss and pink granitoid gneiss. These three lithologic components characterize the Herblet Lake Gneiss Dome Complex in this area (Fig. 22-1; Bailes, 1975). Amphibolite gneiss, intermediate gneiss, siliceous gneiss and pegmatite are present in the vicinity of the occurrence (Fig. 22-2). The intermediate gneiss appears gradational in composition between the mafic amphibolite and the aphanitic, cherty siliceous gneiss. Gneissosity varies from 250° to 273° and is near vertical.

MINERALIZATION:

The amphibolite gneiss contains 1 to 3% disseminated pyrite in 1 m^2 rusty weathered outcrops. Patchy iron oxide stain occurs in amphibolite gneiss along the southern shore of Pulver Lake.

GEOCHEMICAL DATA:

Representative outcrop chip sample (04838) was collected from the occurrence for multi-element geochemical analysis. The sample contains low base and precious metals (Appendix I).

CLASSIFICATION:

Disseminated mineralization - not classified.

REFERENCES:

Assessment File 91624
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

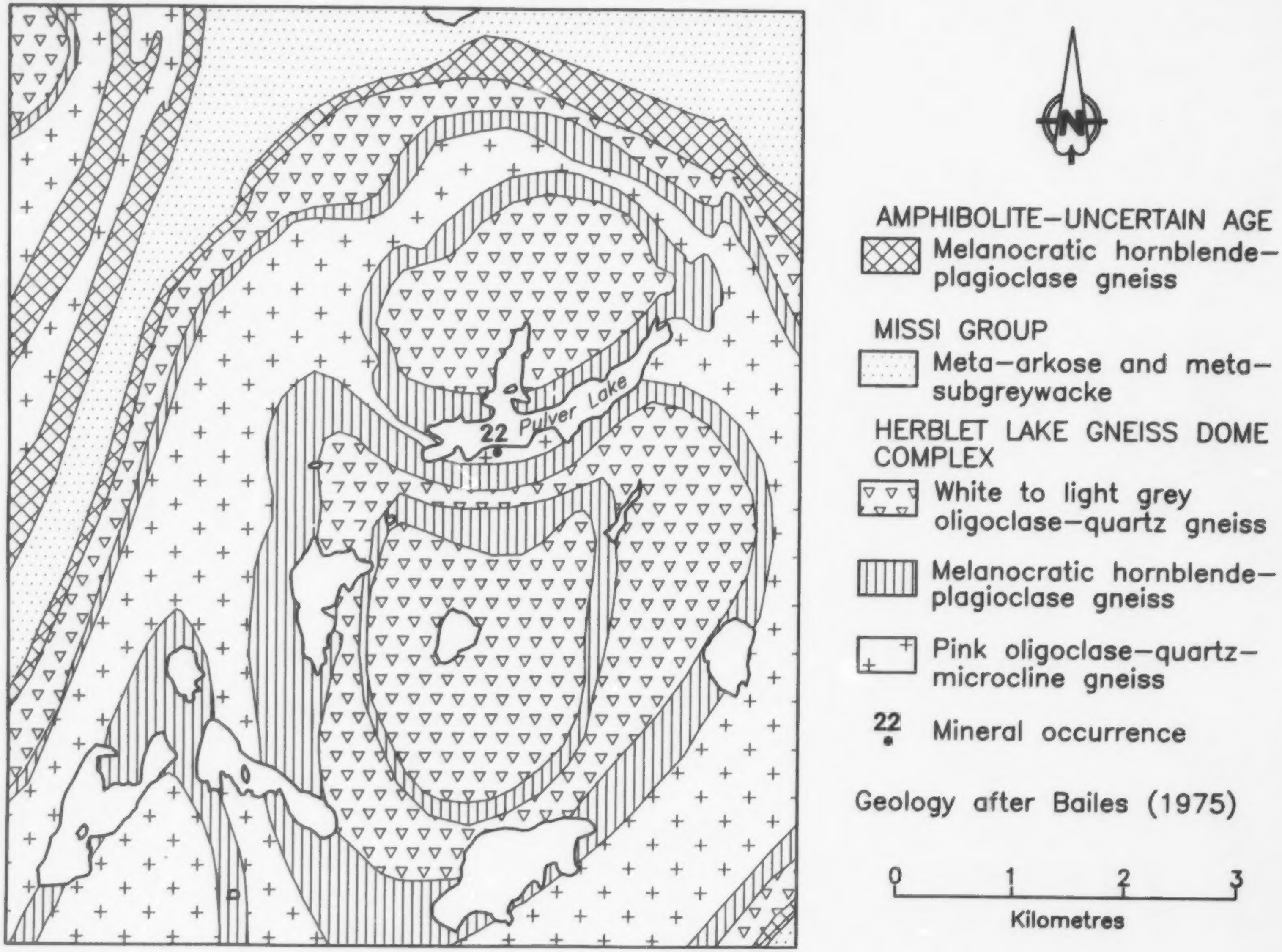

N
22 Pulver Lake
AMPHIBOLITE–UNCERTAIN AGE
Melanocratic hornblende–plagioclase gneiss
MISSI GROUP
Meta–arkose and meta–subgreywacke
HERBLET LAKE GNEISS DOME COMPLEX
White to light grey oligoclase–quartz gneiss
Melanocratic hornblende–plagioclase gneiss
Pink oligoclase–quartz–microcline gneiss
22 Mineral occurrence
Geology after Bailes (1975)
0
1
2
3
Kilometres

Figure 22-1: Geological setting of occurrence 22.

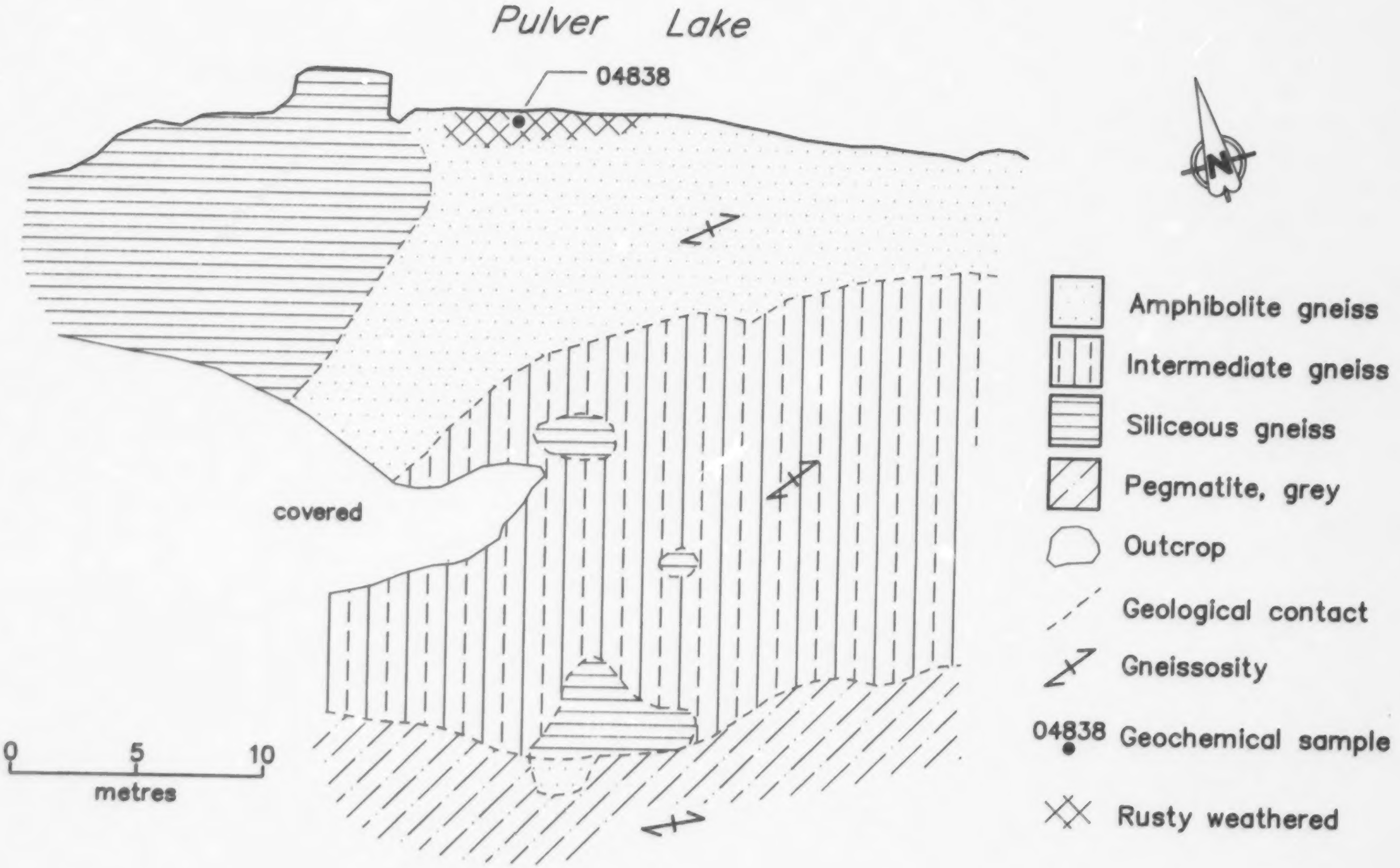

Pulver Lake
04838
N
covered
0
5
10
metres
Amphibolite gneiss
Intermediate gneiss
Siliceous gneiss
Pegmatite, grey
Outcrop
Geological contact
Gneissosity
04838 Geochemical sample
Rusty weathered

Figure 22-2: Geology and sample location map, occurrence 22.

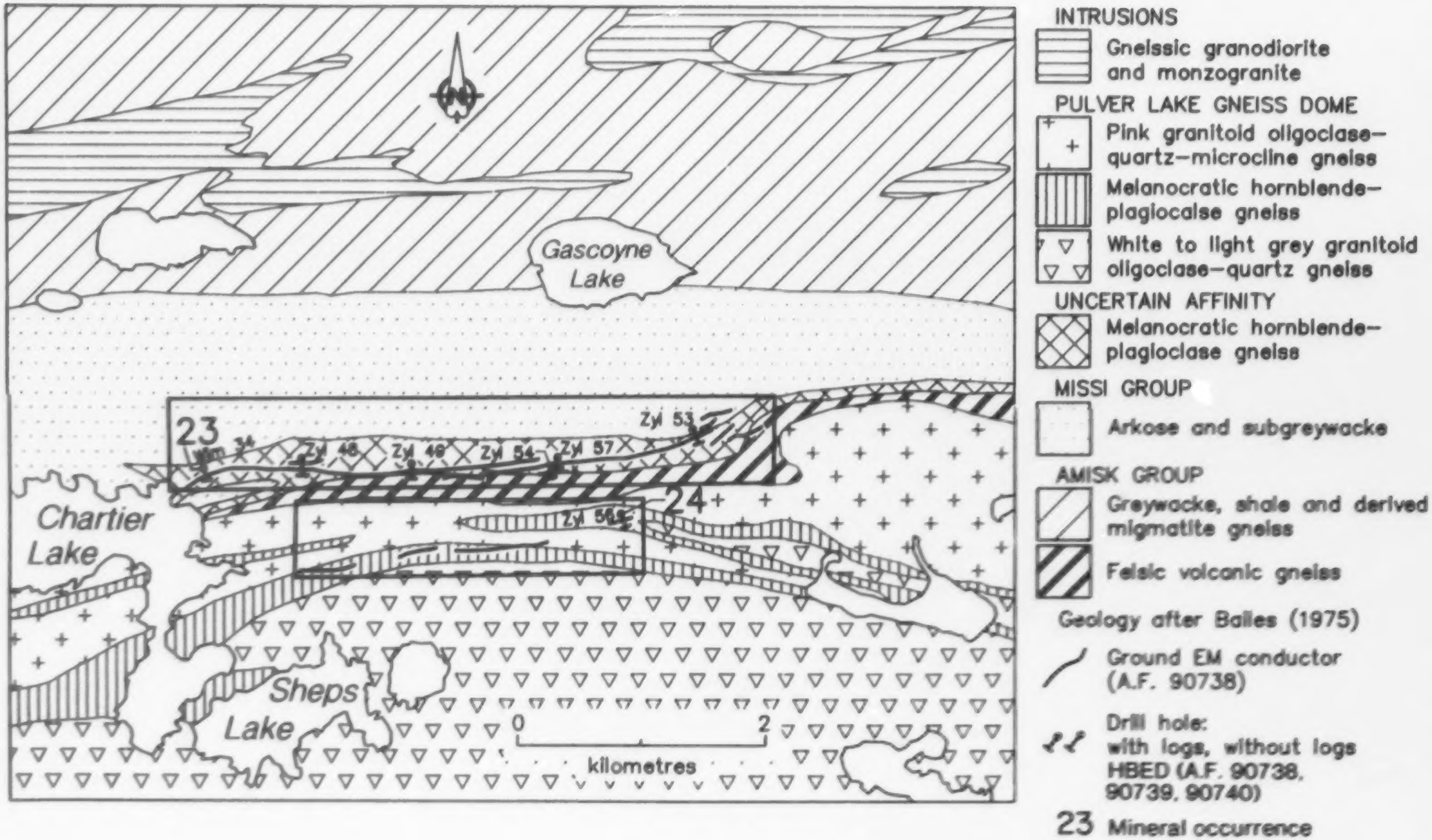

Gascoyne Lake
Chartier Lake
Sheps Lake
23
24
Zyl 53
WM 34
Zyl 48
Zyl 49
Zyl 54
Zyl 57
Zyl 56
0
2
kilometres
N
INTRUSIONS
Gneissic granodiorite and monzogranite
PULVER LAKE GNEISS DOME
Pink granitoid oligoclase–quartz–microcline gneiss
Melanocratic hornblende–plagiocalse gneiss
White to light grey granitoid oligoclase–quartz gneiss
UNCERTAIN AFFINITY
Melanocratic hornblende–plagioclase gneiss
MISSI GROUP
Arkose and subgreywacke
AMISK GROUP
Greywacke, shale and derived migmatite gneiss
Felsic volcanic gneiss
Geology after Bailes (1975)
Ground EM conductor (A.F. 90738)
Drill hole: with logs, without logs HBED (A.F. 90738, 90739, 90740)
23 Mineral occurrence

Figure 23-1: Geological setting, ground EM geophysical conductors, and diamond drill hole locations, occurrences 23 and 24.

LOCATION: 23

NAME:

UTM: 6104134N/437643E

ACCESS: Bush plane to Chartier Lake and traverse.

AREA: Chartier Lake

AIRPHOTO: MB87011-232

EXPLORATION SUMMARY:

The area was included in an airborne EM and radiometric survey conducted by HBED in 1961 (A.F. 91628). The EM survey delineated approximately 150 airborne EM anomalies, but the radiometric survey did not identify anomalies considered to be worthy of ground follow-up. In 1971 HBED undertook 535 km of ground EM surveys and drilled five holes (450 m) on claim CB 135 (A.F. 90738). A further 7 holes (597 m) were drilled in 1972 to test ground EM conductors on claims CB 141 and 143 (A.F. 90739, 90740). A.L. Parres Ltd. staked claims Lyp 2 and Lyz 13 in 1988; the claims were cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by melanocratic hornblende-plagioclase gneiss flanked to the north by Missi Group arkose and subgreywacke and to the south by Amisk Group felsic volcanic gneiss and pink granitoid gneiss of the Herblet Lake Gneiss Dome Complex (Bailes, 1975). The hornblende-plagioclase gneiss has been intruded by pegmatite (Fig. 23-1). The hornblende-plagioclase gneiss is locally rusty weathered and contains pyritic quartz veins and zones with up to 75% 0.5 cm red garnets, and up to 2% disseminated pyrrhotite (Fig. 23-2). The hornblende-plagioclase gneiss has a gneissosity that varies from 070° to 102° with 67° to 82° north dips.

Long and short strike length ground EM geophysical conductors (A.F. 90738) are situated within hornblende-plagioclase amphibolite and Amisk Group felsic volcanic gneiss. Diamond drill holes, collared to test these conductors, intersected mineralized plagioclase-biotite-garnet gneiss and garnet-chlorite schist, pegmatite, and chemical sedimentary rocks (A.F. 90738, 90739, 90740).

MINERALIZATION:

A rusty weathered quartz vein containing 1% pyrite represents the predominant type of mineralization in outcrop. Locally, 1 to 2% pyrrhotite occurs in a silicified zone (Fig. 23-2).

"Massive" graphite with 1 to 3% pyrite over 0.4 m was intersected by DDH Zyl 57. DDH Zyl 48, 49, 53, and 54 intersected trace to 20% pyrite and trace to 50% graphite over core intersections between 0.1 and 4.6 m. This disseminated mineralization is hosted by a variety of lithologies, including garnet-chlorite schist, hornblende-biotite-plagioclase gneiss, plagioclase-biotite-garnet gneiss and siliceous biotite-plagioclase gneiss. Silicification is the only alteration described in the drill logs (A.F. 90738). Although logs for core from DDH Wim 34 are not available, notes written adjacent to the collar location for DDH Wim 34 on a geophysical base map (A.F. 90738) indicate the presence of graphite, pyrite, sphalerite and chalcopyrite in the drill core. Sulphide mineral percentages are not reported.

GEOCHEMICAL DATA:

Representative outcrop chip sample 04850 was collected from the pyritic quartz vein for multi-element geochemical analysis. The sample contains low base and precious metals (Appendix I). Notes written adjacent to the collar location for DDH Wim 34 on a geophysical base map indicate 1.5 m of 1.5% Zn (A.F. 90738).

CLASSIFICATION:

Chemical sediment type deposit; sulphide facies iron formation. The garnet-rich portion of the hornblende-plagioclase gneiss that, in part, hosts graphite and base metal mineralization occurs at the limits of outcrop beside a linear swamp and may represent mineralization-related alteration. A vein type deposit; single vein also occurs at this location.

REFERENCES:

Assessment Files 90738, 90739, 90740 and 91628
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

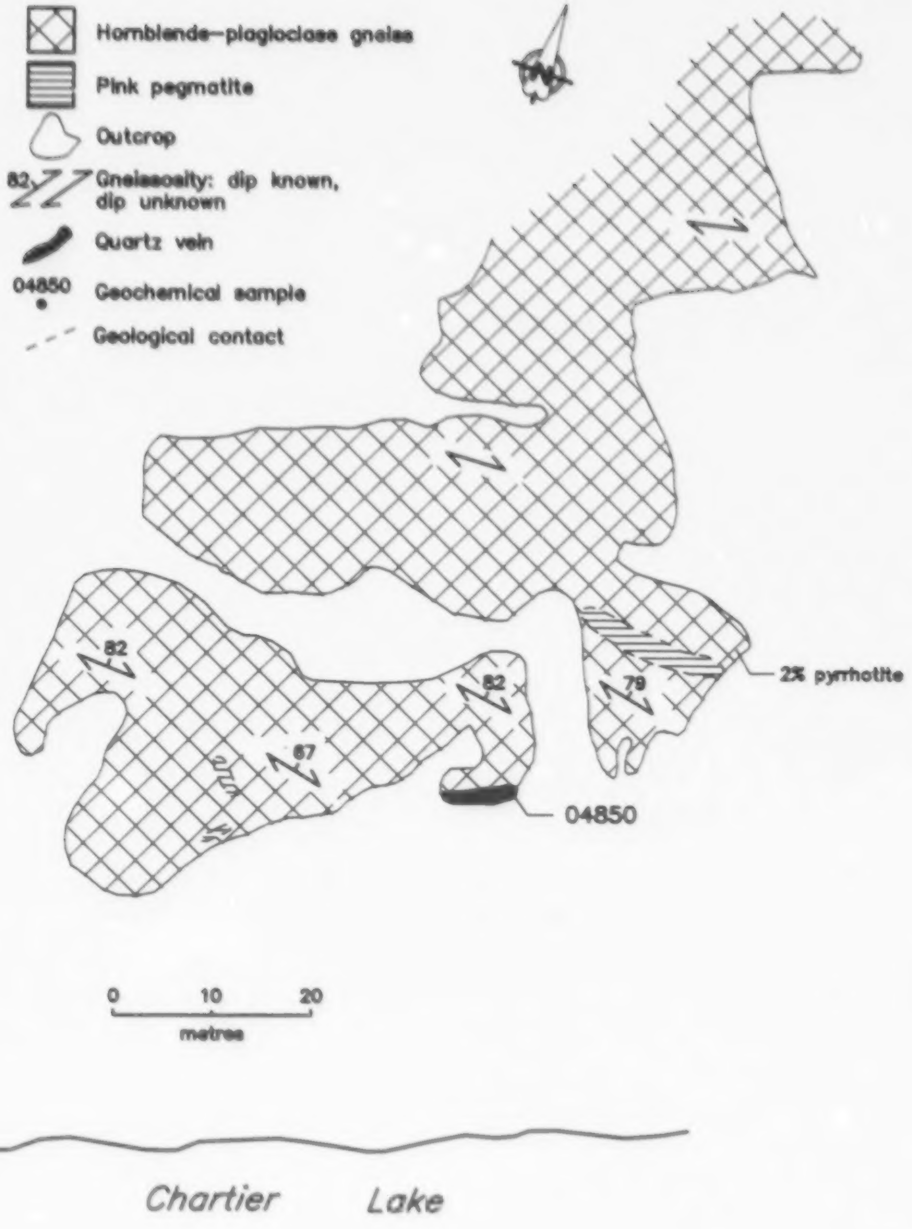

Hornblende–plagioclase gneiss
Pink pegmatite
Outcrop
82 Gneissosity: dip known, dip unknown
Quartz vein
04850 Geochemical sample
Geological contact
82
82
79
67
2% pyrrhotite
04850
0
10
20
metres
Chartier Lake

Figure 23-2: Geology and sample location map, occurrence 23.

LOCATION: 24

NAME:
UTM: 6103897N/441105E
ACCESS: Bush plane to Chartier Lake and traverse.

AREA: Chartier Lake (Fig. 23-1)
AIRPHOTO: MB87011-232

EXPLORATION SUMMARY:

The area was included in an airborne EM and radiometric survey conducted by HBED in 1961 (A.F. 91628). This survey delineated approximately 150 airborne EM anomalies, but the radiometric survey did not identify anomalies considered to be worthy of ground follow-up. HBED drilled six holes (529 m) on claim CB 143 in 1972 (A.F. 90740). A.L. Parres Ltd. staked claims Lyp 2 and 3, and Lyz 13 and 15 in 1988. The Lyz 13 and 15 claims were cancelled in 1989 and the Lyp 2 and 3 claims in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by pink granitoid gneiss flanked to the north by Amisk Group felsic volcanic gneiss and hornblende-plagioclase gneiss of uncertain age, and to the south by amphibolite gneiss and light grey to white granitoid gneiss. These lithologic components characterize the Herblet Lake Gneiss Dome Complex in this area (Fig. 23-1, Bailes, 1975). Pink granitoid gneiss with iron oxide stain and quartz veins are present in the area. The gneissosity trends 093º and dips south at 75°. A 7 cm wide, mineralized white quartz vein trending 080° is exposed in outcrop. Approximately 10 m east of the quartz vein a rusty weathered boulder of massive anthophyllite with subordinate garnet rests on pink granitoid gneiss. The angularity of the boulder suggests local derivation, possibly from an amphibolite gneiss mapped to the north of this occurrence. Long and short strike length ground EM geophysical conductors are situated at or near the contact between pink granitoid gneiss and melanocratic amphibolite gneiss. DDH Zyl 56, collared to test the conductor with the shortest strike length, intersected biotite-hornblende-quartz-feldspar chlorite gneiss (A.F. 90740).

MINERALIZATION:

Approximately 1% disseminated pyrite occurs in a white quartz vein. Disseminated pyrrhotite, 1 to 2%, occurs in a massive anthophyllite-garnet boulder. Core from DDH Zyl 56 is nonmineralized.

GEOCHEMICAL DATA:

A representative outcrop chip sample (04652) was collected from the anthophyllite-garnet boulder for multielement geochemical analysis. The sample contains low base and precious metals (Appendix I).

CLASSIFICATION:

Vein type deposit; single vein.

REFERENCES:

Assessment File 90740 and 91628
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

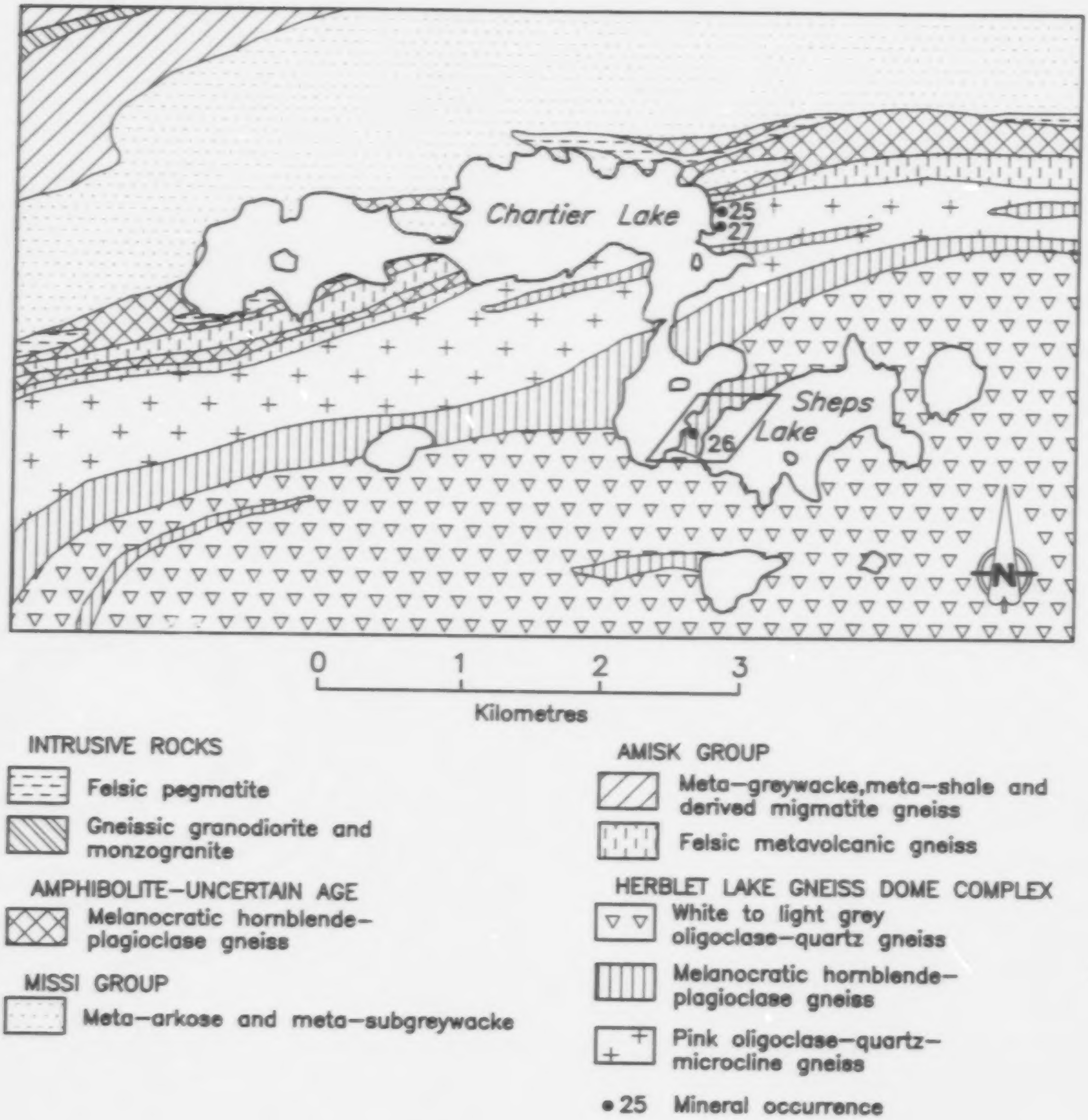

Chartier Lake
25
27
Sheps Lake
26
N
0
1
2
3
Kilometres
INTRUSIVE ROCKS
Felsic pegmatite
Gneissic granodiorite and monzogranite
AMPHIBOLITE–UNCERTAIN AGE
Melanocratic hornblende–plagioclase gneiss
MISSI GROUP
Meta–arkose and meta–subgreywacke
AMISK GROUP
Meta–greywacke, meta–shale and derived migmatite gneiss
Felsic metavolcanic gneiss
HERBLET LAKE GNEISS DOME COMPLEX
White to light grey oligoclase–quartz gneiss
Melanocratic hornblende–plagioclase gneiss
Pink oligoclase–quartz–microcline gneiss
• 25 Mineral occurrence

Figure 25-1: Geological setting of occurrences 25, 26 and 27.

LOCATION: 25

NAME:

UTM: 6103865N/437872E

ACCESS: Bush plane to Chartier Lake and traverse.

AREA: Chartier Lake

AIRPHOTO: MB87011-232

EXPLORATION SUMMARY:

The area was included in an airborne EM and radiometric survey conducted by HBED in 1961 (A.F. 91628). This survey delineated approximately 150 airborne EM anomalies; the radiometric survey did not identify anomalies considered to be worthy of ground follow-up. A.L. Parres Ltd. staked claim Lyz 13 in 1988; the claim was cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by hornblende-plagioclase gneiss of uncertain age, Amisk Group felsic volcanic gneiss and Missi Group arkose and greywacke. These rock units are flanked to the north by Missi Group arkose and subgreywacke and to the south by pink granitoid gneiss. These lithologies characterize the Herblet Lake Gneiss Dome Complex in this area (Fig. 25-1, Bailes, 1975). Amphibole-plagioclase gneiss is interlayered with garnetiferous felsic volcanic gneiss in the immediate area of the occurrence. The amphibole-plagioclase gneiss is rusty weathered and locally intruded by pink and white pegmatite dykes (Fig. 25-2). Gneissosities strike between 256° and 289°.

MINERALIZATION:

Disseminated pyrite and pyrrhotite, 5 to 10%, occur in a 1 m^2 area in amphibole-plagioclase gneiss.

GEOCHEMICAL DATA:

A representative outcrop chip sample (04653) was collected from the occurrence for multi-element geochemical analysis. The sample contains low base and precious metals (Appendix I).

CLASSIFICATION:

Disseminated mineralization - not classified.

REFERENCES:

Assessment File 91628
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

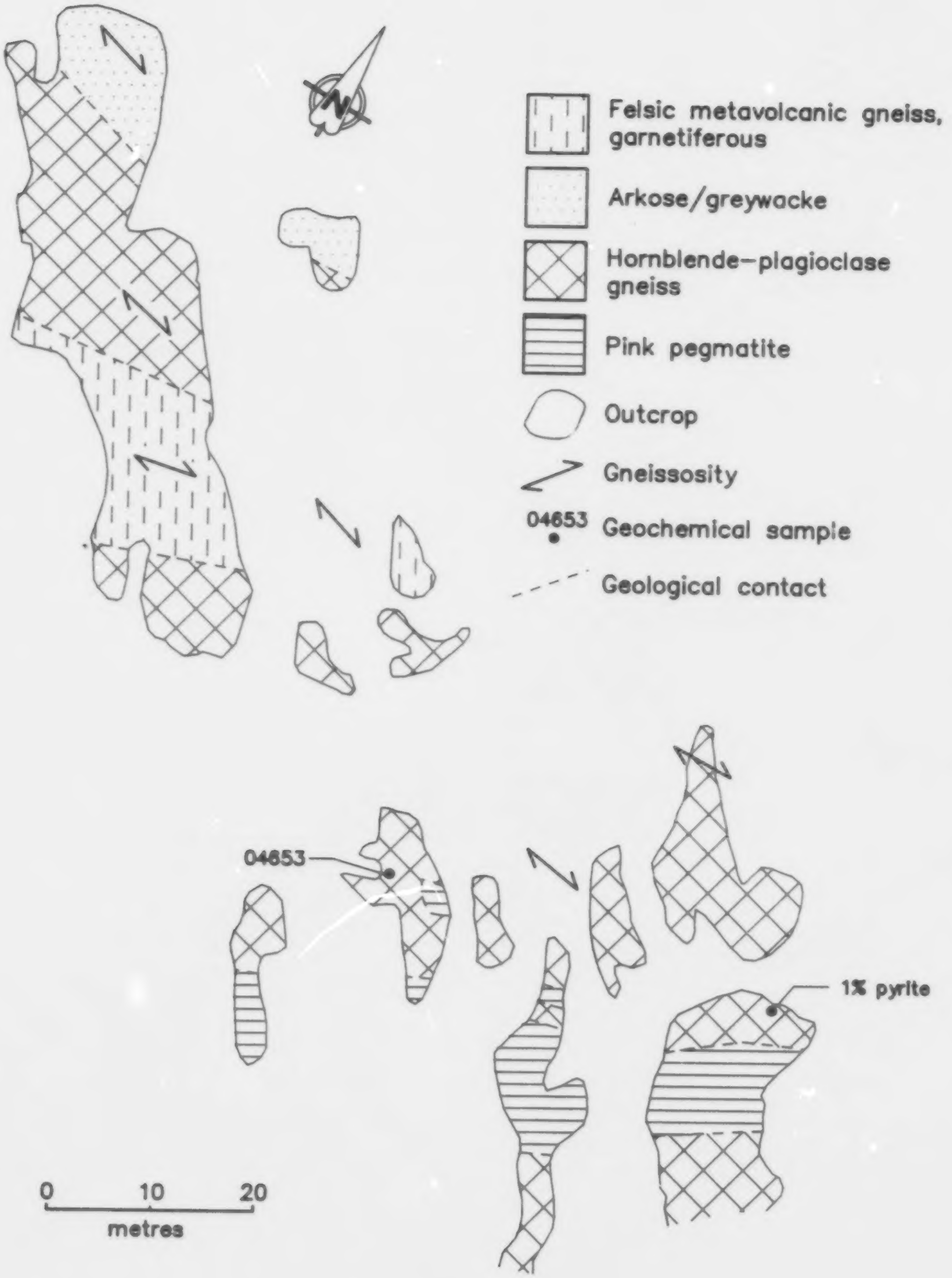

N
Felsic metavolcanic gneiss, garnetiferous
Arkose/greywacke
Hornblende-plagioclase gneiss
Pink pegmatite
Outcrop
Gneissosity
04653 Geochemical sample
Geological contact
04653
1% pyrite
0
10
20
metres

Figure 25-2: Geology and sample location map, occurrence 25.

LOCATION: 26

NAME:

UTM: 6102266N/437742E

ACCESS: Bush plane to Chartier Lake and traverse.

AREA: Chartier Lake (Fig. 25-1)

AIRPHOTO: MB87011-232

EXPLORATION SUMMARY:

A.L. Parres Ltd. staked claims Lyz 14 and 16 in 1988; the claims were cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by massive and tectonically brecciated amphibolite gneiss and white to light grey granitoid gneiss. Pink granitoid gneiss flanks these rocks to the north. These lithologies characterize the Herblet Lake Gneiss Dome Complex in this area (Fig. 25-1, Bailes, 1975). Light grey granitoid gneiss and variably altered amphibolite gneiss are present in the immediate area of the occurrence (Fig. 26-1). The amphibolite gneiss is rusty weathered, and contains subhedral to euhedral garnets that vary from 1 to 5 mm. Thin, linear silicified zones occur within the amphibolite gneiss. Gneissosity generally trends easterly.

MINERALIZATION:

Disseminated pyrrhotite and chalcopyrite, 1 to 5%, occur in silicified amphibolite. The silicified zones trend easterly, parallel gneissosity and are generally less than 0.25 m wide.

GEOCHEMICAL DATA:

Seven representative outcrop chip samples were collected for multi-element geochemical analysis. The samples contain low precious metals and range in Cu content from 45 to 549 ppm (Appendix I).

CLASSIFICATION:

Disseminated mineralization - not classified. Disseminated pyrrhotite and chalcopyrite occur in rusty weathered, pervasively silicified amphibolite. Linear silicified zones may represent shear zones.

REFERENCES:

Bailes, A.H.

1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

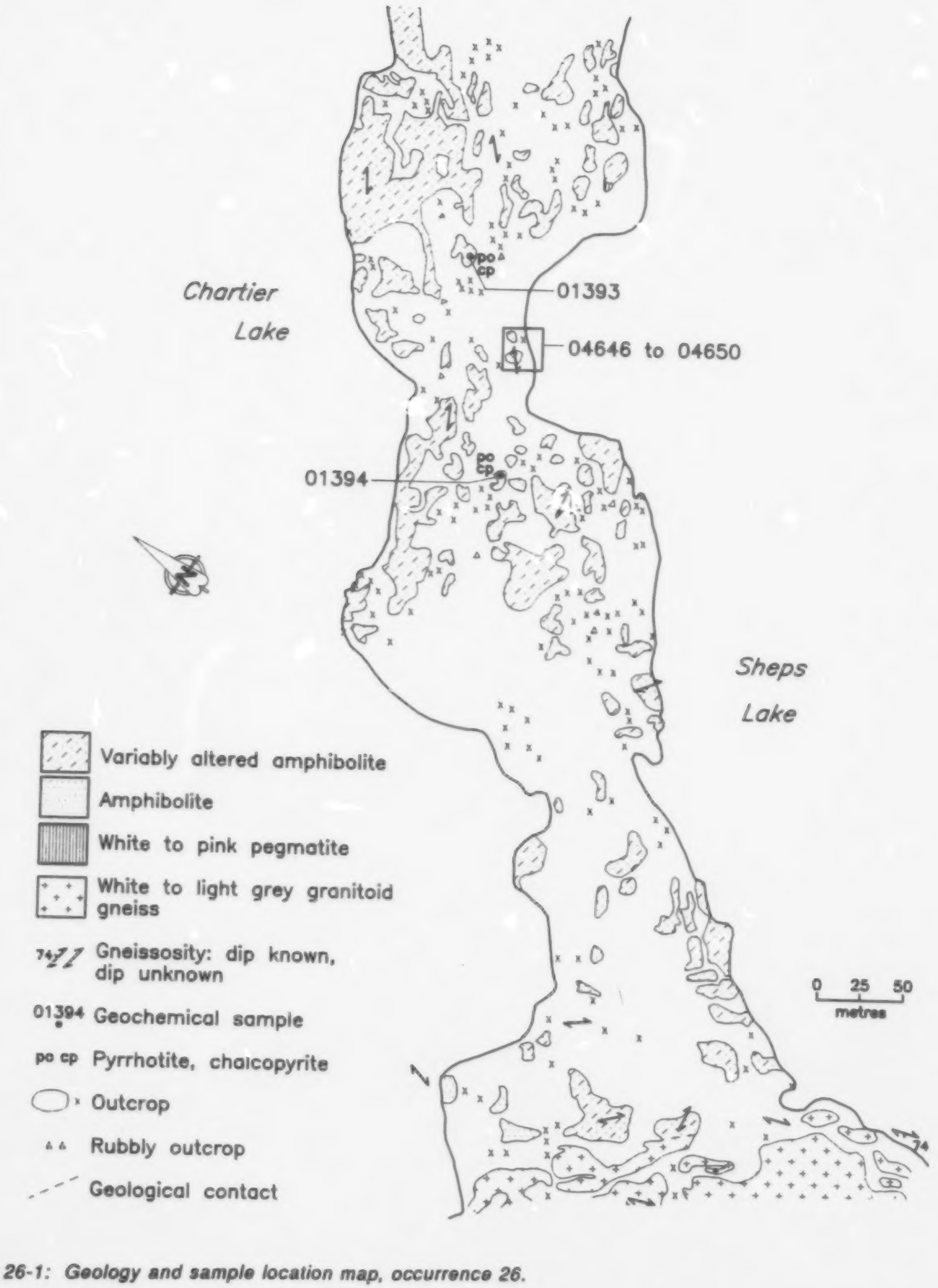

Chartier
Lake
po
cp
01393
04646 to 04650
po
cp
01394
Sheps
Lake
0 25 50
metres
74
Variably altered amphibolite
Amphibolite
White to pink pegmatite
White to light grey granitoid gneiss
74 Gneissosity: dip known, dip unknown
01394 Geochemical sample
po cp Pyrrhotite, chalcopyrite
Outcrop
Rubbly outcrop
Geological contact

Figure 26-1: Geology and sample location map, occurrence 26.

LOCATION: 27

NAME:
UTM: 6103753N/437889E
ACCESS: Bush plane to Chartier Lake and traverse.

AREA: Chartier Lake (Fig. 25-1)
AIRPHOTO: MB87011-232

EXPLORATION SUMMARY:

The area was included in an airborne EM and radiometric survey conducted by HBED in 1961 (A.F. 91628). This survey delineated approximately 150 airborne EM anomalies; the radiometric survey did not identify anomalies considered to be worthy of ground follow-up. A.L. Parres Ltd. staked claim Lyz 13 in 1988; the claim was cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by white to light grey granitoid gneiss, pink granitoid gneiss and amphibolite gneiss. These three lithologic components characterize the Herblet Lake Gneiss Dome Complex in this area (Fig. 25-1, Bailes, 1975). The occurrence is hosted by pink granitoid gneiss intruded by pink pegmatite dykes that have been, in turn, intruded by medium grained grey granitoid dykes. The occurrence is situated 6.1 to 9.1 m east of the contact between magnetite-rich amphibolite gneiss and pink granitoid gneiss (Fig. 27-1). The pink granitoid gneiss is rusty weathered, silicified and contains deformed and discontinuous quartz veins.

MINERALIZATION:

Disseminated pyrite, 1%, occurs in multiple, 3 cm wide zones of rusty weathered, pink granitoid gneiss. The host rocks have been affected by diffuse silicification. Silicified pink granitoid gneiss and deformed white quartz veins are nonmineralized.

GEOCHEMICAL DATA:

Two representative outcrop chip samples (04651 and 04654) were collected from the occurrence for multi-element geochemical analysis (Fig. 27-1). The samples contain low base and precious metals (Appendix I).

CLASSIFICATION:

Disseminated mineralization - not classified.

REFERENCES:

Assessment File 91628
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

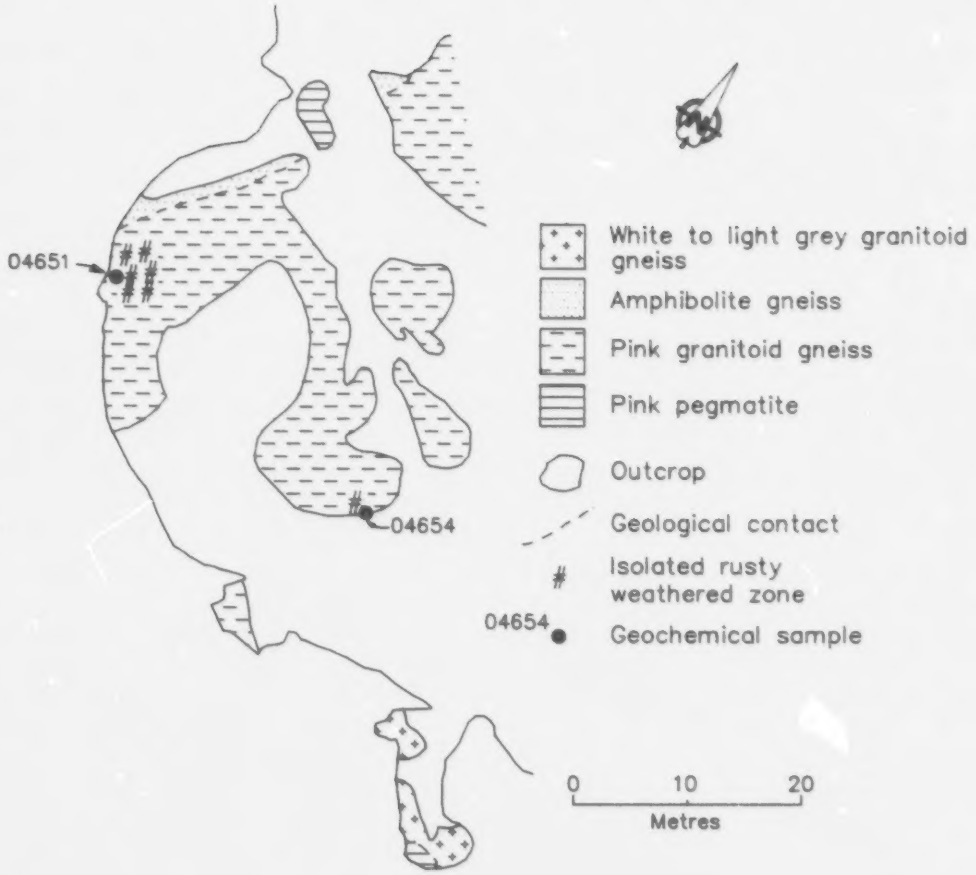

04651
04654
White to light grey granitoid gneiss
Amphibolite gneiss
Pink granitoid gneiss
Pink pegmatite
Outcrop
Geological contact
Isolated rusty weathered zone
04654
Geochemical sample
0
10
20
Metres

Figure 27-1: Geology and sample location map, occurrence 27.

LOCATION: 28

NAME:

UTM: 6103197N/437800E

ACCESS: Bush plane to Chartier Lake and traverse.

AREA: Chartier Lake

AIRPHOTO: MB87011-232

EXPLORATION SUMMARY:

A.L. Parres Ltd. staked claim Lyz 14 in 1988; the claim was cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by pink granitoid gneiss and amphibolite gneiss. These two lithologic components characterize the Herblet Lake Gneiss Dome Complex in this area (Fig. 28-1, Bailes, 1975). The occurrence is hosted by amphibolite gneiss close to the contact with a white quartz-feldspar-magnetite-garnet gneiss that is, in turn, in contact with a pink granitoid gneiss (Fig. 28-1). The host amphibolite gneiss is rusty weathered and strongly foliated with proximity to the occurrence.

MINERALIZATION:

Disseminated pyrite, 1%, occurs in a rusty weathered, quartz vein. Disseminated pyrite, 5 to 10%, occurs adjacent to the vein in rusty weathered amphibolite gneiss (Fig. 28-2).

GEOCHEMICAL DATA:

One representative outcrop chip sample (01390) was collected for multi-element geochemical analysis. The sample consists of pyritic quartz vein and wallrock; it contains 375 ppm Cu and 18 ppb Au (Appendix I).

CLASSIFICATION:

Vein type deposit; single vein. A single pyritic quartz vein with a pyritic halo occurs in strongly foliated amphibolite gneiss.

REFERENCES:

Bailes, A.H.

1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

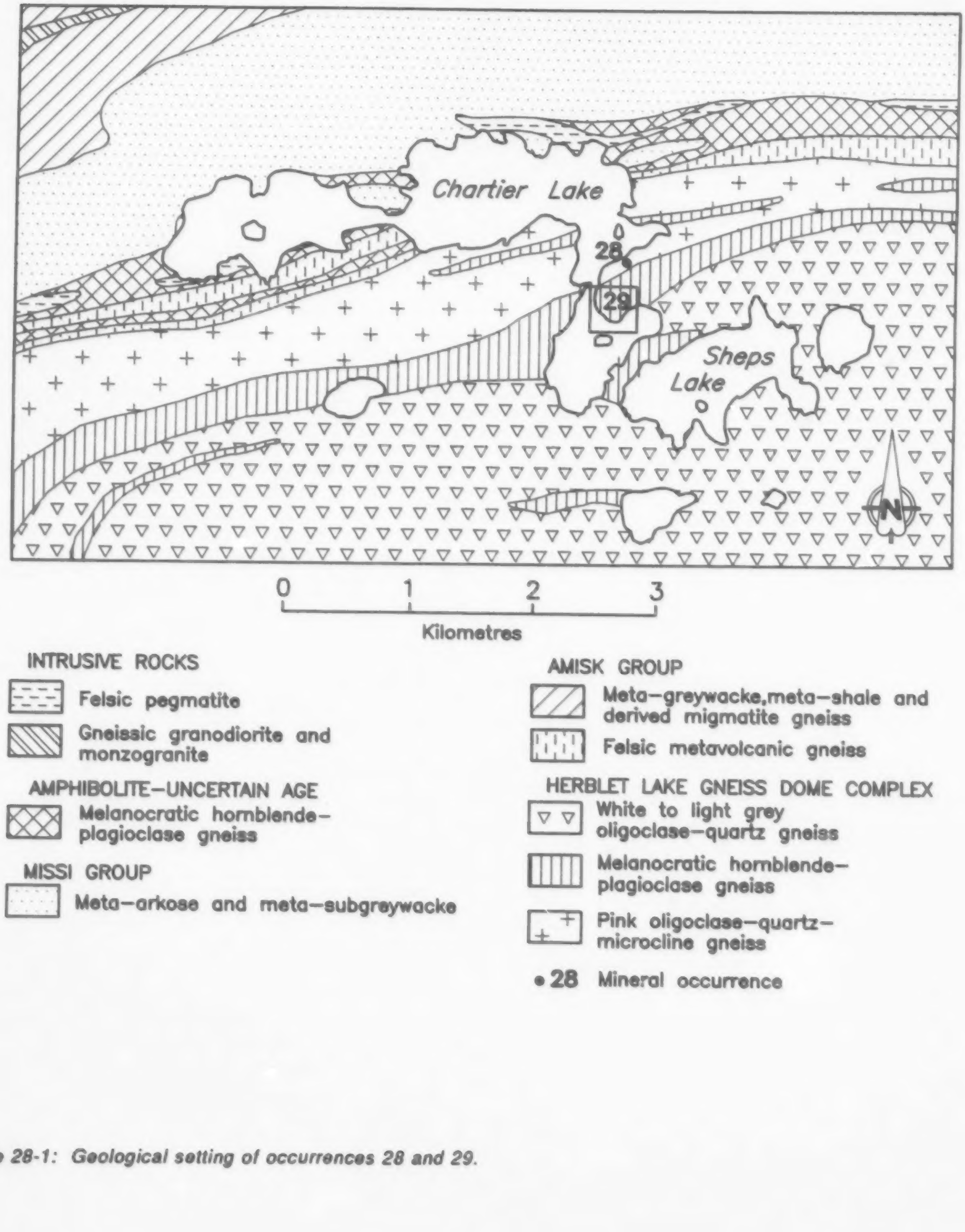

Chartier Lake
28
29
Sheps Lake
N
0
1
2
3
Kilometres
INTRUSIVE ROCKS
Felsic pegmatite
Gneissic granodiorite and monzogranite
AMPHIBOLITE–UNCERTAIN AGE
Melanocratic hornblende-plagioclase gneiss
MISSI GROUP
Meta–arkose and meta–subgreywacke
AMISK GROUP
Meta–greywacke, meta–shale and derived migmatite gneiss
Felsic metavolcanic gneiss
HERBLET LAKE GNEISS DOME COMPLEX
White to light grey oligoclase–quartz gneiss
Melanocratic hornblende-plagioclase gneiss
Pink oligoclase–quartz–microcline gneiss
• 28 Mineral occurrence

Figure 28-1: Geological setting of occurrences 28 and 29.

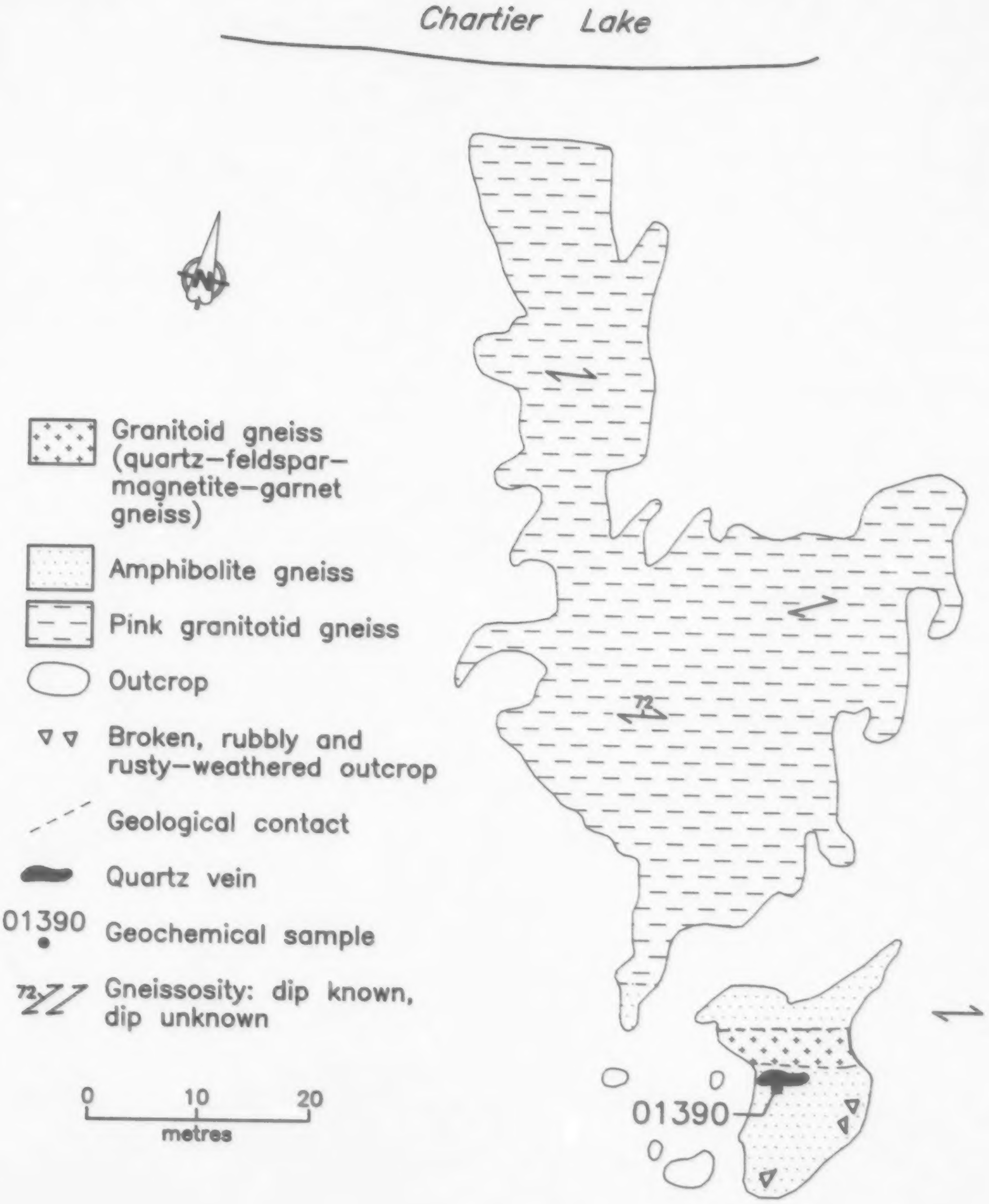

Chartier Lake
N
Granitoid gneiss (quartz–feldspar–magnetite–garnet gneiss)
Amphibolite gneiss
Pink granitotid gneiss
Outcrop
Broken, rubbly and rusty–weathered outcrop
Geological contact
Quartz vein
01390
Geochemical sample
72
Gneissosity: dip known, dip unknown
0
10
20
metres
72
01390

Figure 28-2: Geology and sample location map, occurrence 28.

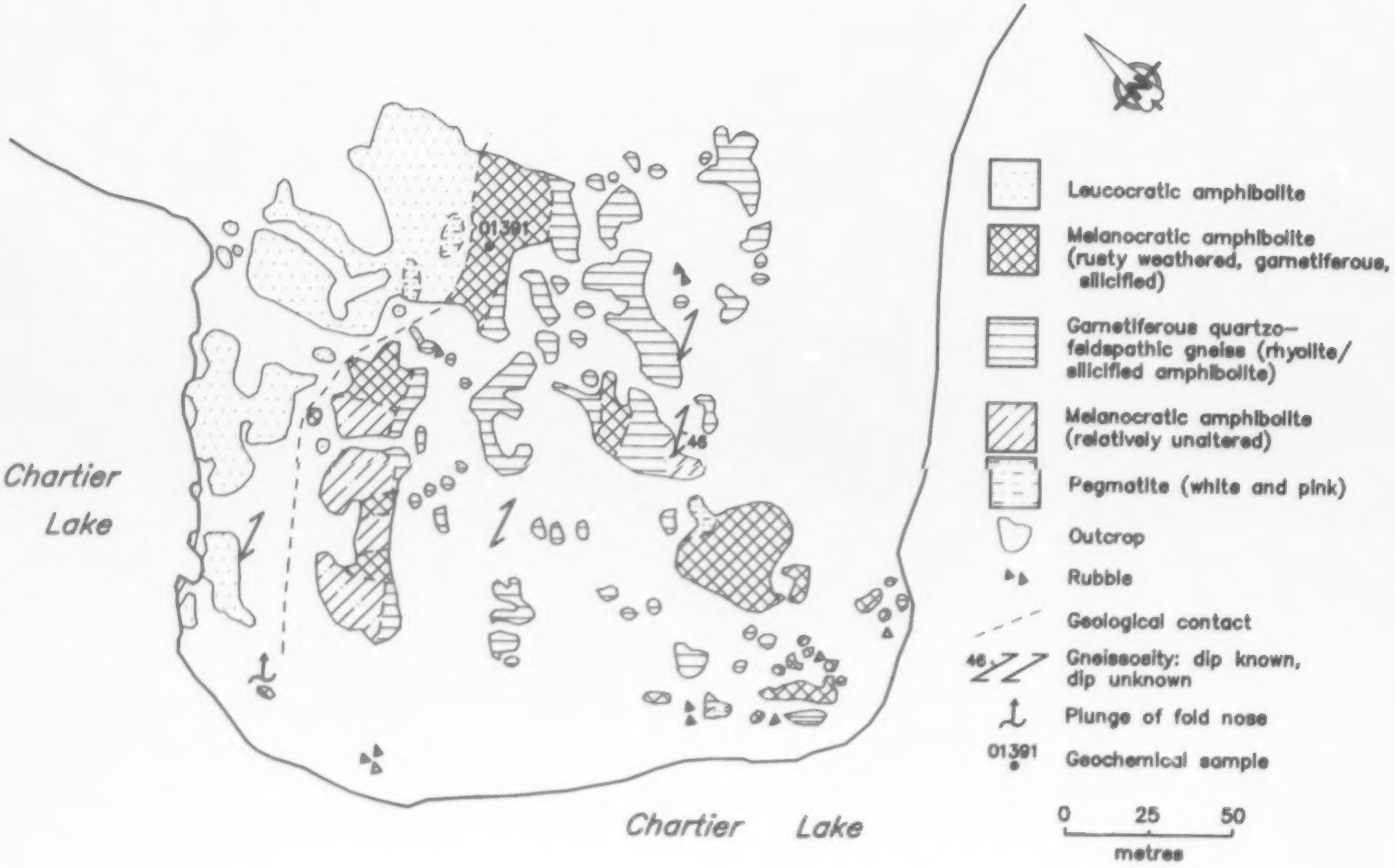

Chartier
Lake
Chartier Lake
01391
46
Leucocratic amphibolite
Melanocratic amphibolite (rusty weathered, garnetiferous, silicified)
Garnetiferous quartzo-feldspathic gneiss (rhyolite/silicified amphibolite)
Melanocratic amphibolite (relatively unaltered)
Pegmatite (white and pink)
Outcrop
Rubble
Geological contact
Gneissosity: dip known, dip unknown
Plunge of fold nose
Geochemical sample
0
25
50
metres

Figure 29-1: Geology and sample location map, occurrence 29.

LOCATION: 29

NAME:

UTM: 6102939N/437704E

ACCESS: Bush plane to Chartier Lake and traverse.

AREA: Chartier Lake

AIRPHOTO: MB87011-232

EXPLORATION SUMMARY:

A.L. Parres Ltd. staked claim Lyz 14 in 1988; the claim was cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by massive and tectonically brecciated amphibolite gneiss, white to light grey granitoid gneiss, and pink granitoid gneiss. These lithologic components are characteristic of the Herblet Lake Gneiss Dome Complex in this area (Fig. 28-1, Bailes, 1975). Leucocratic and melanocratic amphibolite and quartz-feldspar-garnet gneiss are present in the immediate area of the occurrence (Fig. 29-1). The quartz-feldspar-garnet gneiss resembles felsic volcanic gneiss mapped elsewhere in the Chartier Lake area by Bailes (1975). The gneissosities generally trend northeast. The host amphibolite gneiss and quartz-feldspar-garnet gneiss are rusty weathered and silicified.

MINERALIZATION:

Disseminated chalcopyrite, pyrite and pyrrhotite, 1%, occur in rusty weathered and silicified linear zones in amphibolite and rhyolite gneiss.

GEOCHEMICAL DATA:

A representative outcrop chip sample (01391) was collected for multi-element geochemical analysis (Fig. 29-1). The sample contains low precious metals and 498 ppm Cu (Appendix I).

CLASSIFICATION:

Disseminated mineralization - not classified. The linear, rusty weathered zones may represent shear zones.

REFERENCES:

Bailes, A.H.

1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

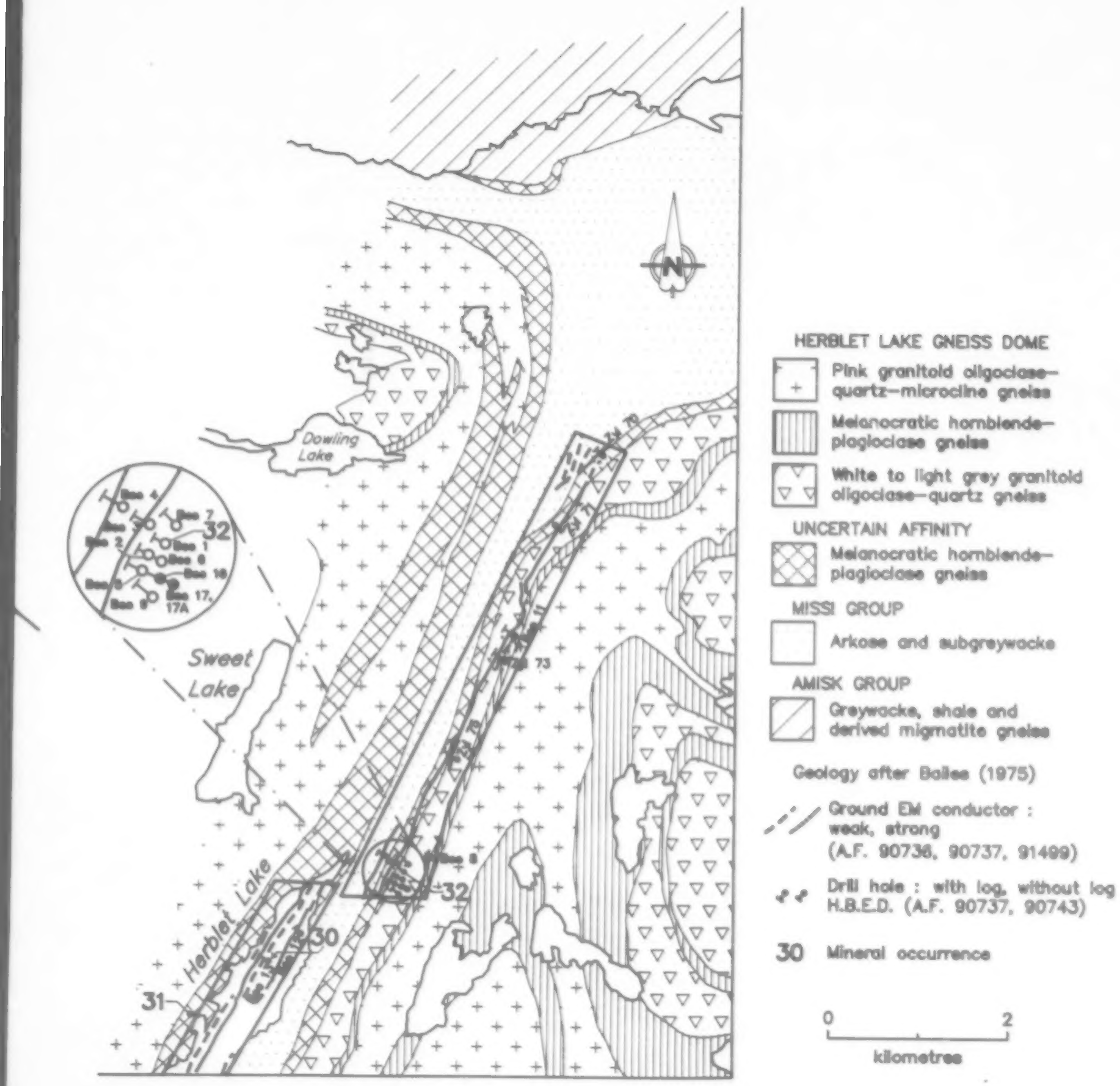

HERBLET LAKE GNEISS DOME
Pink granitoid oligoclase-quartz-microcline gneiss
Melanocratic hornblende-plagioclase gneiss
White to light grey granitoid oligoclase-quartz gneiss
UNCERTAIN AFFINITY
Melanocratic hornblende-plagioclase gneiss
MISSI GROUP
Arkose and subgreywacke
AMISK GROUP
Greywacke, shale and derived migmatite gneiss
Geology after Bailes (1975)
Ground EM conductor : weak, strong
(A.F. 90736, 90737, 91499)
Drill hole : with log, without log
H.B.E.D. (A.F. 90737, 90743)
30 Mineral occurrence
0
2
kilometres
N
Dowling Lake
Sweet Lake
Herblet Lake
30
31
32
73
Boo 4
Boo 7
Boo 2
Boo 1
Boo 6
Boo 10
Boo 5
Boo 9
17, 17A
Boo 8

Figure 30-1: *Geological setting, ground EM geophysical conductors, and diamond drill hole locations, occurrences 30, 31 and 32.*

LOCATION: 30

NAME:

UTM: 6096268N/448610E

ACCESS: Boat on Herblet Lake.

AREA: Northeast Arm, Herblet Lake

AIRPHOTO: A20170-31

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey multiple long and short strike length conductors were delineated throughout the survey area. In 1972 HBED drilled 9 holes (785 m) on claim CB 275 (A.F. 90743). Nor Acme Gold Mines Ltd. staked claim Let 4 in 1987; the claim was cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by melanocratic hornblende-plagioclase gneiss (Bailes, 1975) mapped as massive basalt by Froese and Moore (1980). The massive basalt is flanked to the west by pink granitoid gneiss of the Herblet Lake Gneiss Dome Complex and to the east by Missi Group arkose and subgreywacke (Fig. 30-1, Bailes, 1975). The foliation in the rocks generally trends northeast with dips varying between 59° and 71°. Silicified garnetiferous amphibolite and quartz-amphibole-biotite gneiss are present in the vicinity of the occurrence. Long and short strike length ground EM geophysical conductors characterize the general area of the occurrence (Fig. 30-1). Diamond drill holes Bee 12 and 13 were collared to test these conductors, but drill logs are not available (A.F. 90743). The conductors appear to be hosted by garnetiferous amphibolite interpreted to represent massive basalt (Froese and Moore, 1980).

MINERALIZATION:

Disseminated pyrite, 1 to 2%, occurs within a series of white quartz veins in silicified amphibolite. The wallrocks are strongly silicified up to 1 m on either side of the vein and are cherty. Wallrocks are nonmineralized (Fig. 30-2). Logs for core from diamond drill holes in the area of the occurrence are not available.

GEOCHEMICAL DATA:

Eight representative outcrop chip samples (04655 to 04662) were collected from the occurrence for multi-element geochemical analysis. The samples are a combination of mineralized quartz veins and altered wallrock. The samples contain low base metals. Sample 04656 contains 21 ppb Au (Appendix I).

CLASSIFICATION:

Vein type deposit; multiple veins or lenses. The multiple pyritic quartz veins with silicification haloes occur in massive basalt.

REFERENCES:

Assessment Files 90743 and 91624
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

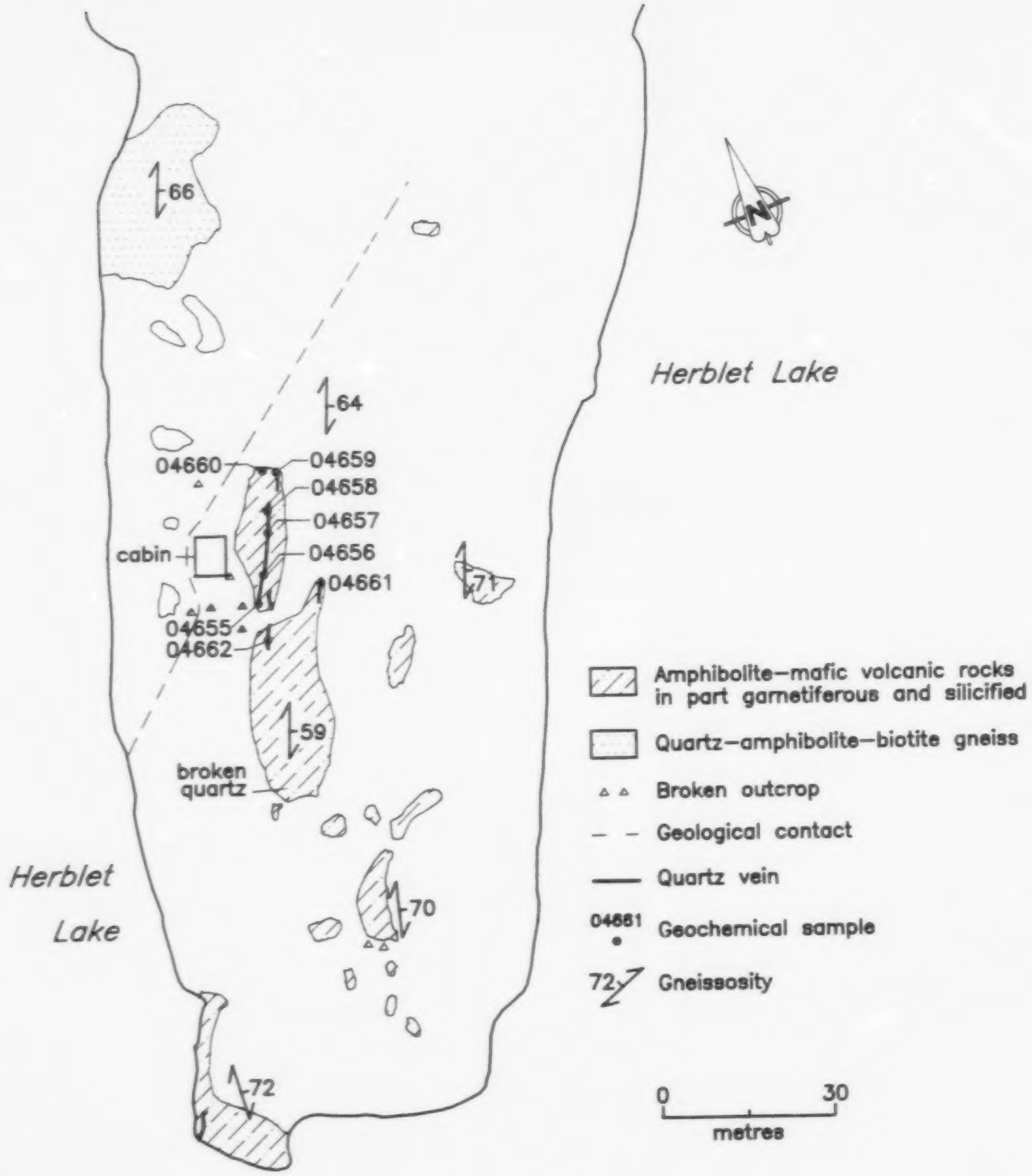

N
Herblet Lake
Herblet Lake
66
64
04660
04659
04658
04657
04656
04661
cabin
71
04655
04662
59
broken quartz
70
72
Amphibolite–mafic volcanic rocks in part garnetiferous and silicified
Quartz–amphibolite–biotite gneiss
Broken outcrop
Geological contact
Quartz vein
04661 Geochemical sample
72 Gneissosity
0
30
metres

Figure 30-2: *Geology and sample location map, occurrence 30.*

LOCATION: 31

NAME: Northeast Herblet Lake
UTM: 6095405N/447673E
ACCESS: Boat on Herblet Lake
AREA: Northeast Arm, Herblet Lake (Fig. 30-1)
AIRPHOTO: A20170-31

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors were delineated throughout the survey area. In 1928 Jack Nutt Mines Ltd. staked Scheelite (44321) and Tungsten (44320) and trenches were dug on these claims in the same year. The claims were cancelled in 1930. W. Cote staked Scheelite 6 and 7 in 1939. Rice Lake Gold Mines Limited optioned the Scheelite claims in 1939 and reported "$26.25 gold over two feet". Tungold Mines Limited acquired the claims in 1940 and reported bulk sample assays of 2.14 to 4.49% WO_3 and a maximum channel sample assay of 1.42% WO_3 across 16.5 cm (Mineral Inventory Card W1).

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by melanocratic hornblende-plagioclase gneiss (Bailes, 1975) mapped as massive basalt by Froese and Moore (1980). The amphibolite is flanked to the west by pink granitoid gneiss of the Herblet Lake Gneiss Dome Complex and to the east by Missi Group arkose and subgreywacke (Fig. 30-1; Bailes, 1975). Pink granitoid gneiss, rusty weathered biotite- and quartz-feldspar-biotite gneiss are present in the immediate area of the occurrence. The quartz-feldspar-biotite gneiss is intruded by a magnetite-bearing pink and white pegmatite dyke (Fig. 31-1). The gneisses trend north and dip between 40° and 53° to the west.

MINERALIZATION:

Five trenches expose foliated fine grained to cherty quartz containing 1% pyrrhotite. The host rocks are biotite gneiss, which represents strongly foliated and altered basalt. Very little muck or vein material remains in or around the trenches. The quartz veins fill a shear that is oriented N25°E/50°S. The shear zone has been delineated for 30 m along strike and contains quartz veins for at least 15 m. Vitreous grains and streaks of scheelite have been identified for a minimum of 6 m along the shear across widths of 0.6 m. Wallace (1925) reported scheelite in gold-bearing pegmatite from the occurrence.

GEOCHEMICAL DATA:

Two representative chip samples (841147 and 841148) were collected from muck around the trenches (Fig. 31-1). The samples contain 6 and 1430 ppb Au, 0.1 and 0.8 ppm Ag, and 218 and 79 ppm Cu, respectively. Sample 841148 also contains 12 ppb Pd (Appendix I). Tungold Mines Ltd. report 0.75% WO_3 and 5.1 g/t Au from a 22.7 kg grab sample and 4.49% WO_3 from an 8.2 kg sample assayed in 1940. J. Nutt, President of Tungold Mines Ltd., reported a range of 2.14 to 4.49% WO_3. Assays representing seven samples collected by J. Dryborough (Engineer, Manitoba Mines Branch) indicated 0.22% WO_3 in one sample and nil WO_3 in the remaining six samples (Mineral Inventory Card W1, 630/4).

CLASSIFICATION:

Vein type deposit; multiple veins or lenses. Tungsten and gold occur in a quartz-filled shear zone in melanocratic hornblende-plagioclase gneiss that is interpreted to be a metabasalt.

REFERENCES:

Assessment File 91624
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

Mineral Inventory Card W1
Northeast Herblet Lake, Manitoba Energy and Mines, Minerals Division.

Wallace, R.C.
1925: Relationships in mineral deposits in northwest Manitoba; Economic Geology, volume 20, pp. 431-441.

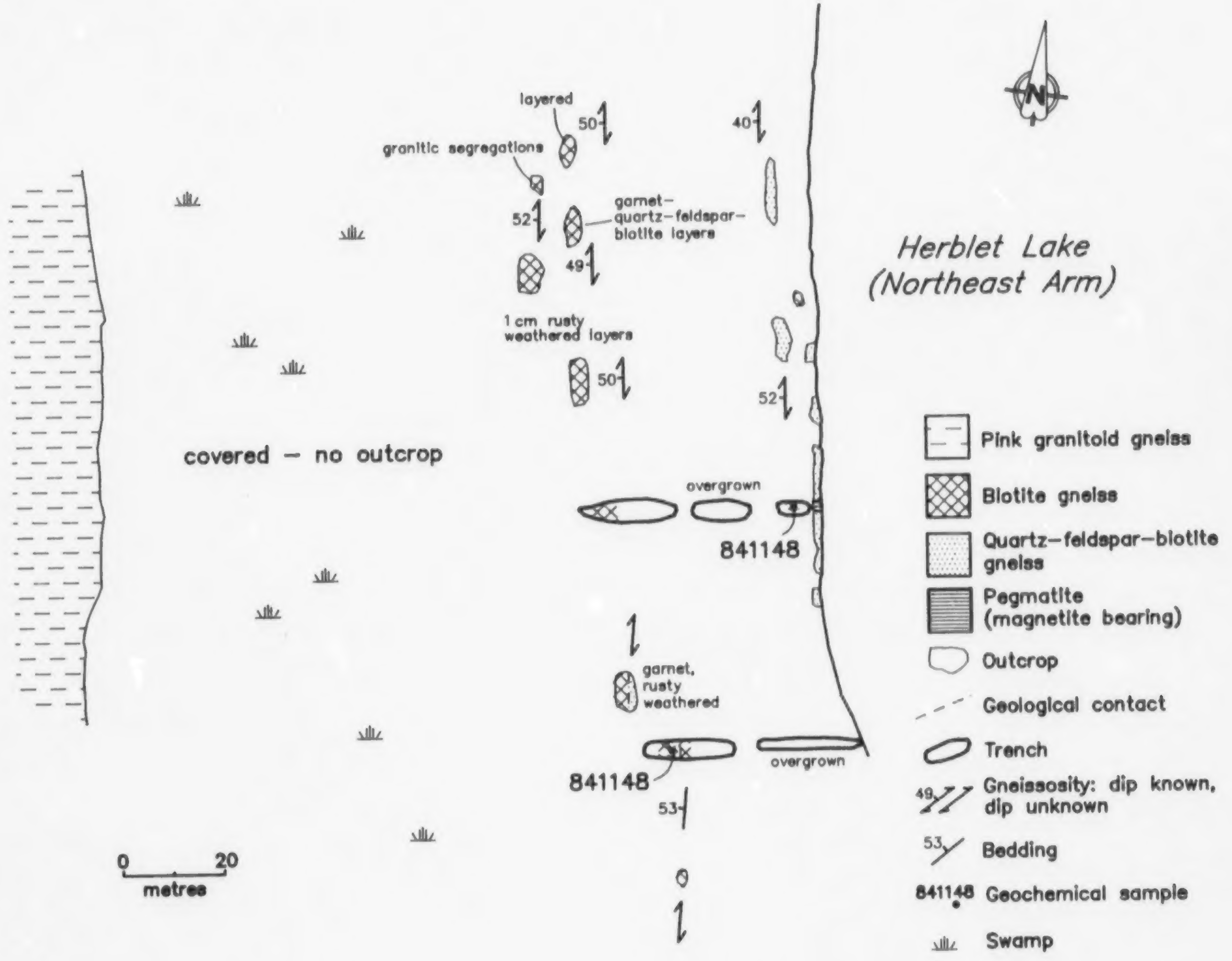

Herblet Lake
(Northeast Arm)
layered
granitic segregations
garnet-quartz-feldspar-biotite layers
1 cm rusty weathered layers
garnet, rusty weathered
covered – no outcrop
overgrown
841148
overgrown
841148
50
52
49
50
40
52
53
0
20
metres
Pink granitoid gneiss
Biotite gneiss
Quartz-feldspar-biotite gneiss
Pegmatite (magnetite bearing)
Outcrop
Geological contact
Trench
49 Gneissosity: dip known, dip unknown
53 Bedding
841148 Geochemical sample
Swamp

Figure 31-1: Outcrop, geology and trench and sample location map, occurrence 31.

LOCATION: 32

NAME: Bee 1, 4 (Bee Zone)
UTM: 6097134N/449977E
ACCESS: Boat on Herblet Lake

AREA: Northeast Arm, Herblet Lake
AIRPHOTO: A20170-31

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey multiple long and short strike length conductors were delineated throughout the survey area. In 1961 HBED drilled 13 holes (1309 m) on the Bee claims (A.F. 90737) and 9 holes (785 m) in 1972 on claim CB 275 (A.F. 90743). HBED staked claim Bur 10712 in 1980.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by light grey to white and pink granitoid gneisses of the Herblet Lake Gneiss Dome Complex, amphibolite gneiss and amphibolite of uncertain affinity, and Missi Group arkose and subgreywacke (Fig. 30-1, Bailes, 1975). Rusty weathered amphibolite is also exposed in the immediate vicinity of the occurrence (Fig. 32-1, 32-2). Diamond drill holes, collared to test short and long strike length ground EM geophysical conductors, intersected quartz-feldspar-biotite gneiss, garnet-quartz-plagioclase-biotite gneiss and quartz-rich feldspathic gneiss. The quartz-feldspar-biotite gneiss is silicified and characterized by abundant quartz-feldspar segregations in proximity to mineralized zones (Fig. 32-3); these segregations are referred to as "granitization" in drill logs (A.F. 90737, 90743).

MINERALIZATION:

Disseminated and near solid to solid veins or laminae of pyrite, pyrrhotite, chalcopyrite and sphalerite occur intermittently over a 600 m x 3 m zone trending northeast and dipping steeply to the south. Diamond drill logs describe disseminated pyrite and chalcopyrite in quartz-rich (silicified?) gneiss in quartz-feldspar-biotite gneiss. Diamond drill holes Zyl 70 and 71 intersected 10 to 95% graphite with 1 to 10% pyrite and up to 1% chalcopyrite. Diamond drill holes Bee 1 to 9 and 17 and 17A intersected similar styles of mineralization. Although DDH Bee 4 intersected 1.2 m of "massive" graphite with disseminated pyrrhotite and pyrite, the remainder of the Bee drill holes intersected disseminated chalcopyrite, sphalerite, pyrrhotite and pyrite in quartz-feldspar-biotite gneiss. These mineralized intervals varied between 0.1 and 4.3 m. Core from DDH Zyl 73 and 75 is nonmineralized. The host rocks may be silicified, garnetiferous and locally contain abundant potash feldspar.

GEOCHEMICAL DATA:

Nine representative chip samples were collected from trench 2 (Fig. 32-4). The samples contain low base and precious metals (Appendix 1).

CLASSIFICATION:

Vein type deposit; multiple veins or lenses. The sulphide veins, laminae and disseminations represent mobilizate that is spatially associated with a zone of granitization characterized by abundant quartz-feldspar segregations. Many ground EM conductors are present in the general area of the Bee Zone, and are classified as chemical sediment type deposits; sulphide facies iron formations. They are characterized by near solid to disseminated graphite with disseminated iron sulphides.

REFERENCES:

Assessment Files 90737, 90743 and 91624
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

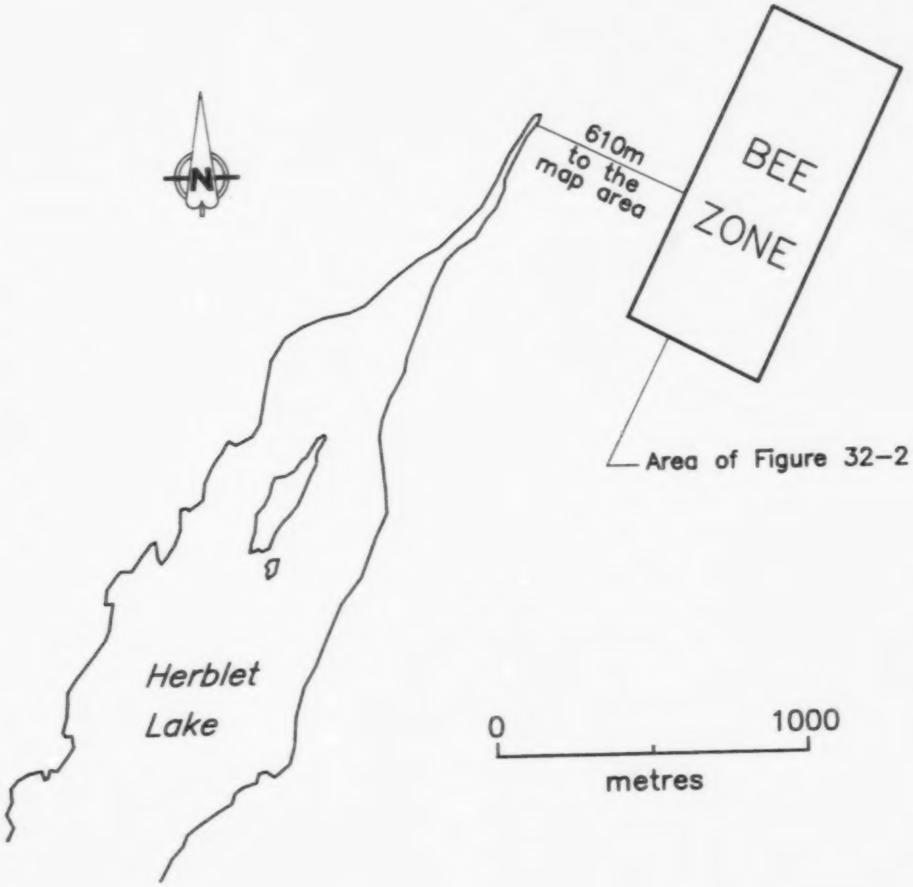

BEE ZONE
610m to the map area
Area of Figure 32-2
Herblet Lake
N
0
1000
metres

Figure 32-1: Location map for the Bee Zone, occurrence 32.

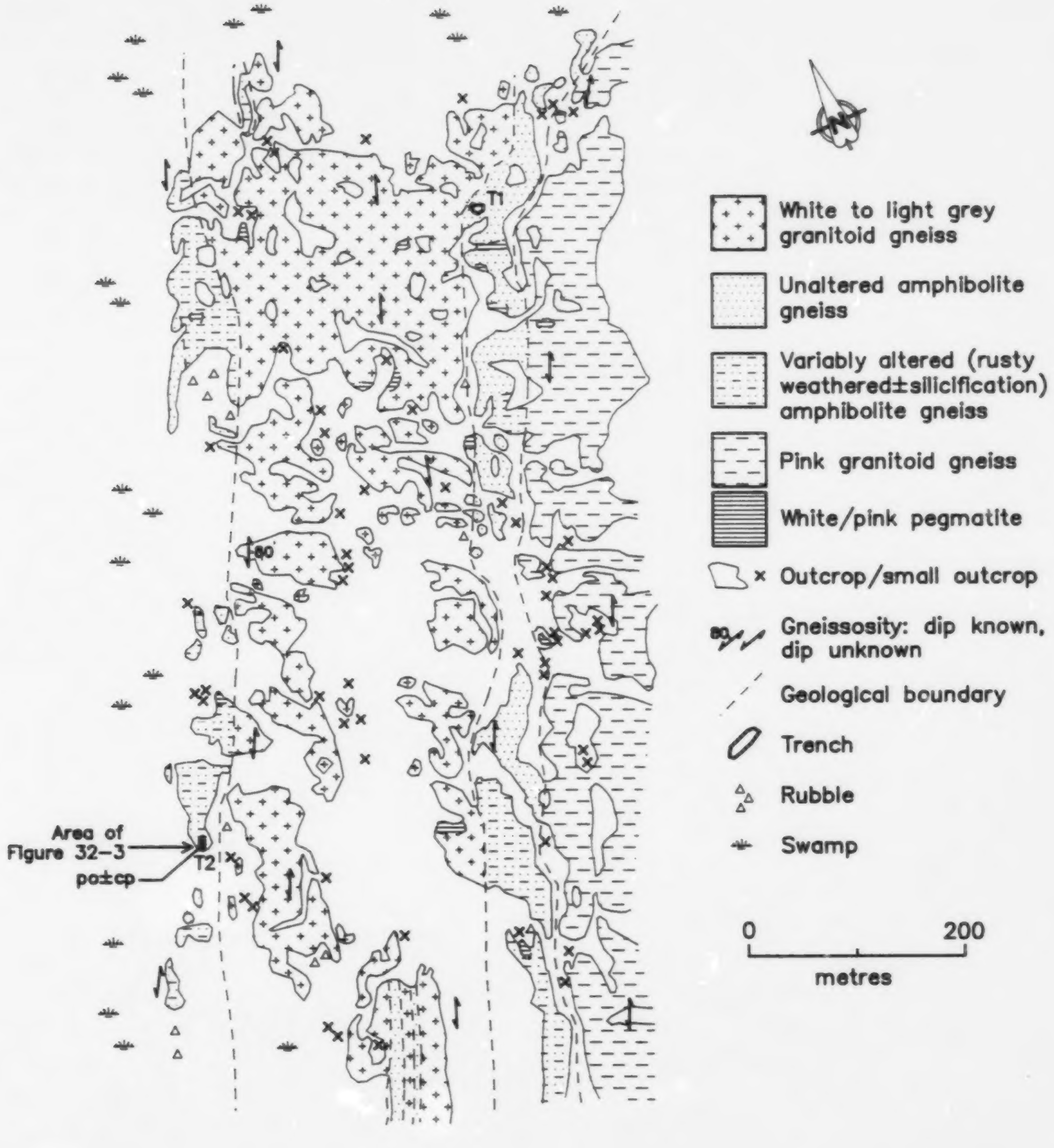

N
T1
80
Area of Figure 32-3
T2
po±cp
White to light grey granitoid gneiss
Unaltered amphibolite gneiss
Variably altered (rusty weathered±silicification) amphibolite gneiss
Pink granitoid gneiss
White/pink pegmatite
Outcrop/small outcrop
80 Gneissosity: dip known, dip unknown
Geological boundary
Trench
Rubble
Swamp
0
200
metres

Figure 32-2: Detailed geology in the area of the trenches, occurrence 32.

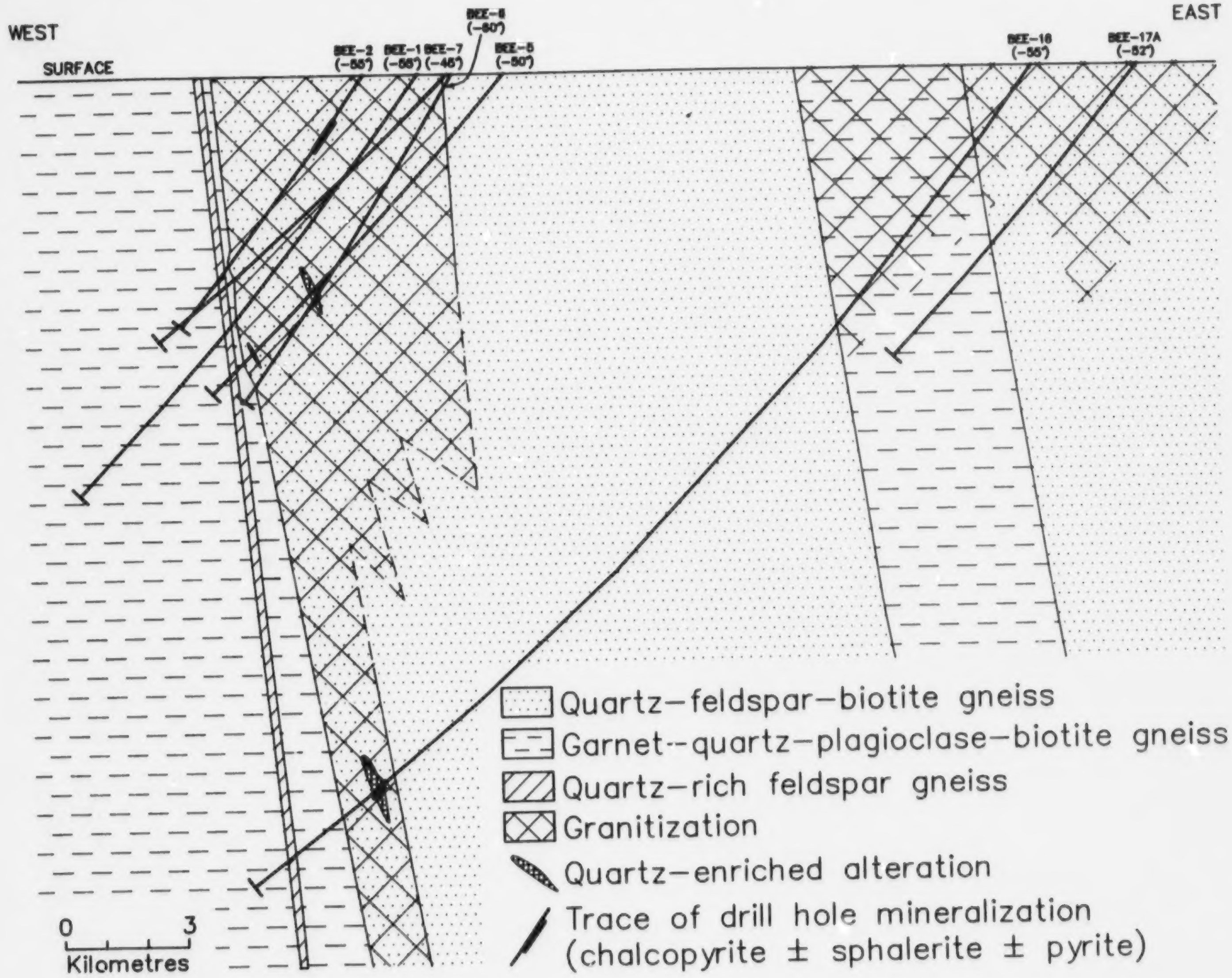

WEST
EAST
SURFACE
BEE-2 (-55°)
BEE-1 (-55°)
BEE-7 (-45°)
BEE-8 (-60°)
BEE-5 (-50°)
BEE-16 (-55°)
BEE-17A (-52°)
Quartz–feldspar–biotite gneiss
Garnet--quartz–plagioclase–biotite gneiss
Quartz–rich feldspar gneiss
Granitization
Quartz–enriched alteration
Trace of drill hole mineralization (chalcopyrite ± sphalerite ± pyrite)
0
3
Kilometres

Figure 32-3: Geological cross section through the Bee Zone, occurrence 32.

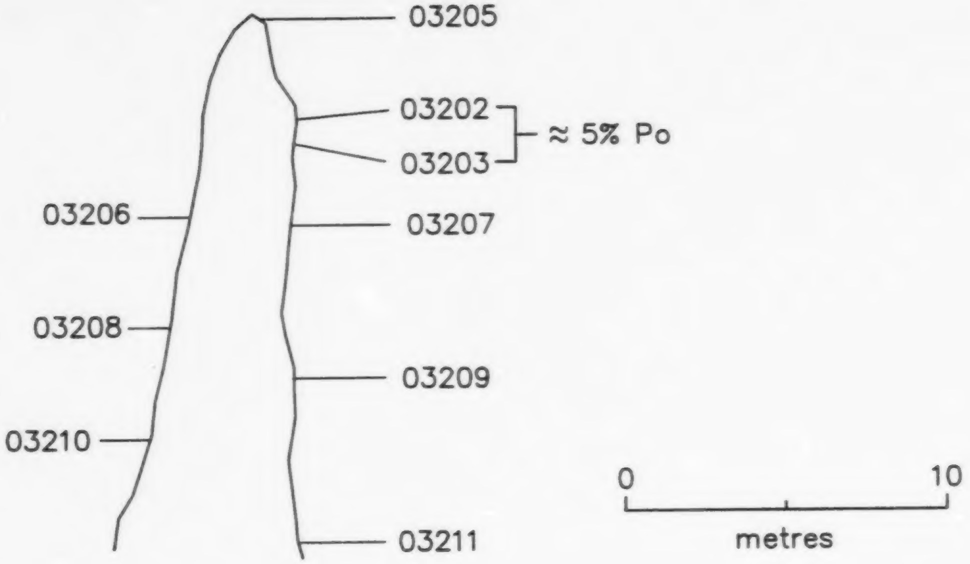

03205
03202
03203
≈ 5% Po
03206
03207
03208
03209
03210
03211
0
10
metres

Figure 32-4: Sample locations in trench 2, Bee Zone, occurrence 32.

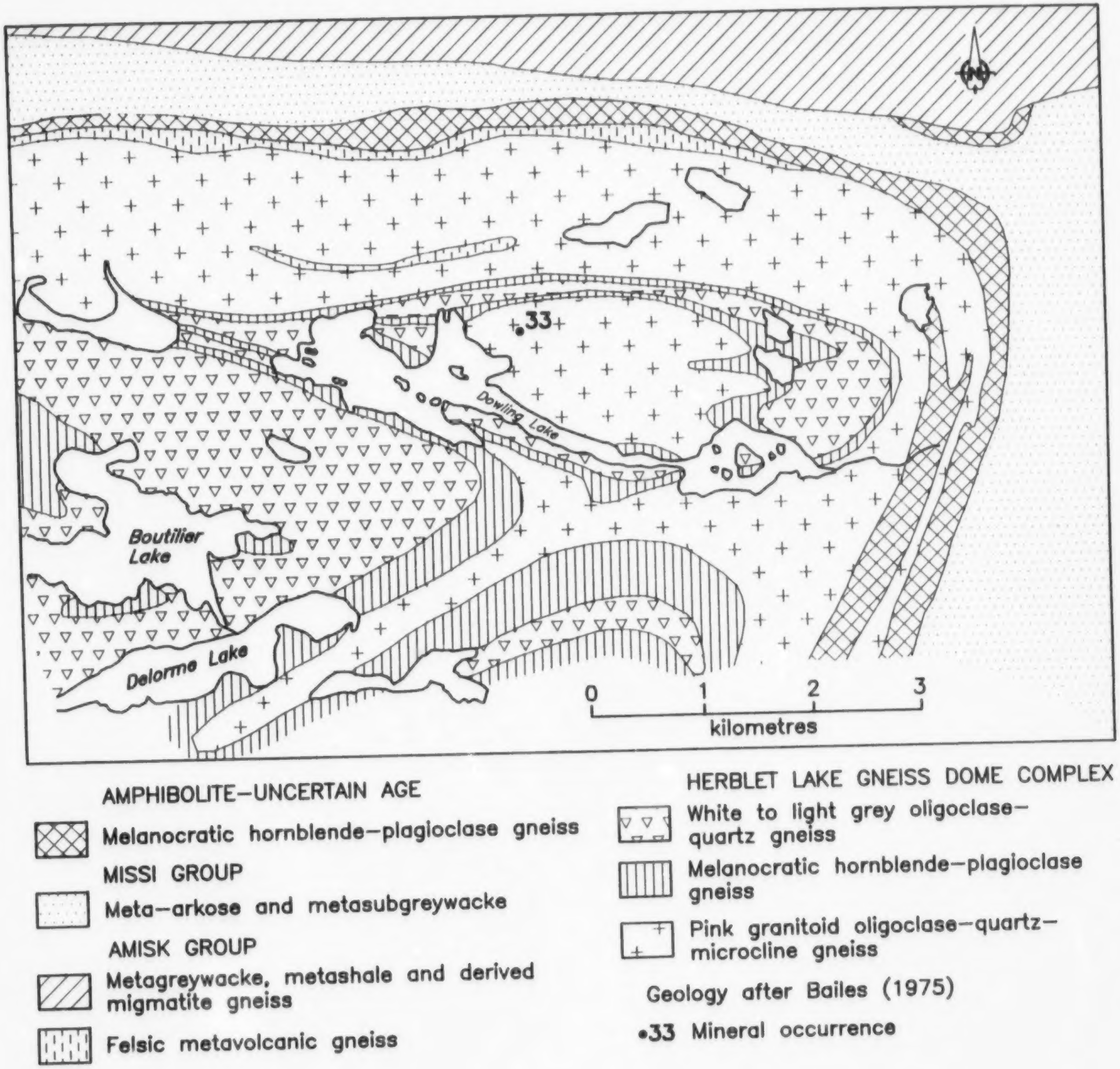

Boutilier Lake
Delorme Lake
Dowling Lake
33
N
0
1
2
3
kilometres
AMPHIBOLITE–UNCERTAIN AGE
Melanocratic hornblende–plagioclase gneiss
MISSI GROUP
Meta–arkose and metasubgreywacke
AMISK GROUP
Metagreywacke, metashale and derived migmatite gneiss
Felsic metavolcanic gneiss
HERBLET LAKE GNEISS DOME COMPLEX
White to light grey oligoclase–quartz gneiss
Melanocratic hornblende–plagioclase gneiss
Pink granitoid oligoclase–quartz–microcline gneiss
Geology after Bailes (1975)
•33 Mineral occurrence

Figure 33-1: Geological setting of occurrence 33.

LOCATION: 33

NAME:

UTM: 6103013N/447046E

ACCESS: Bush plane to Dowling Lake and traverse

AREA: Dowling Lake

AIRPHOTO: MB87009-218

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors were delineated throughout the survey area. A.L. Parres Ltd. staked claim Lym 6 in 1988. The claim was cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by pink granitoid gneiss flanked to the north and south by amphibolite gneiss and light grey to white granitoid gneiss. These lithologic components characterize the Herblet Lake Gneiss Dome Complex in this area (Fig. 33-1; Bailes, 1975). The granitoid gneiss is rusty weathered and contains numerous, discontinuous quartz pods and lenses (Fig. 33-2).

MINERALIZATION:

Disseminated pyrite, 1%, occurs in rusty weathered yellow to brick red quartz pods and lenses and in rusty weathered wallrock. Alteration extends 8 to 10 cm from the pod/lens contact into the wallrock.

GEOCHEMICAL DATA:

Representative outcrop chip samples (04846 and 04847) were collected from the occurrence for multi-element geochemical analysis. Rock chips of the rusty weathered quartz lenses were collected from five sites to form bulk sample 04846 (Fig. 33-2). Sample 04847 is rusty weathered wallrock. The samples contain low base and precious metals (Appendix I).

CLASSIFICATION:

Vein type deposit; multiple veins or lenses. Rusty weathered, pyritic quartz pods and lenses are hosted by rusty weathered pink granitoid gneiss.

REFERENCES:

Assessment File 91624
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

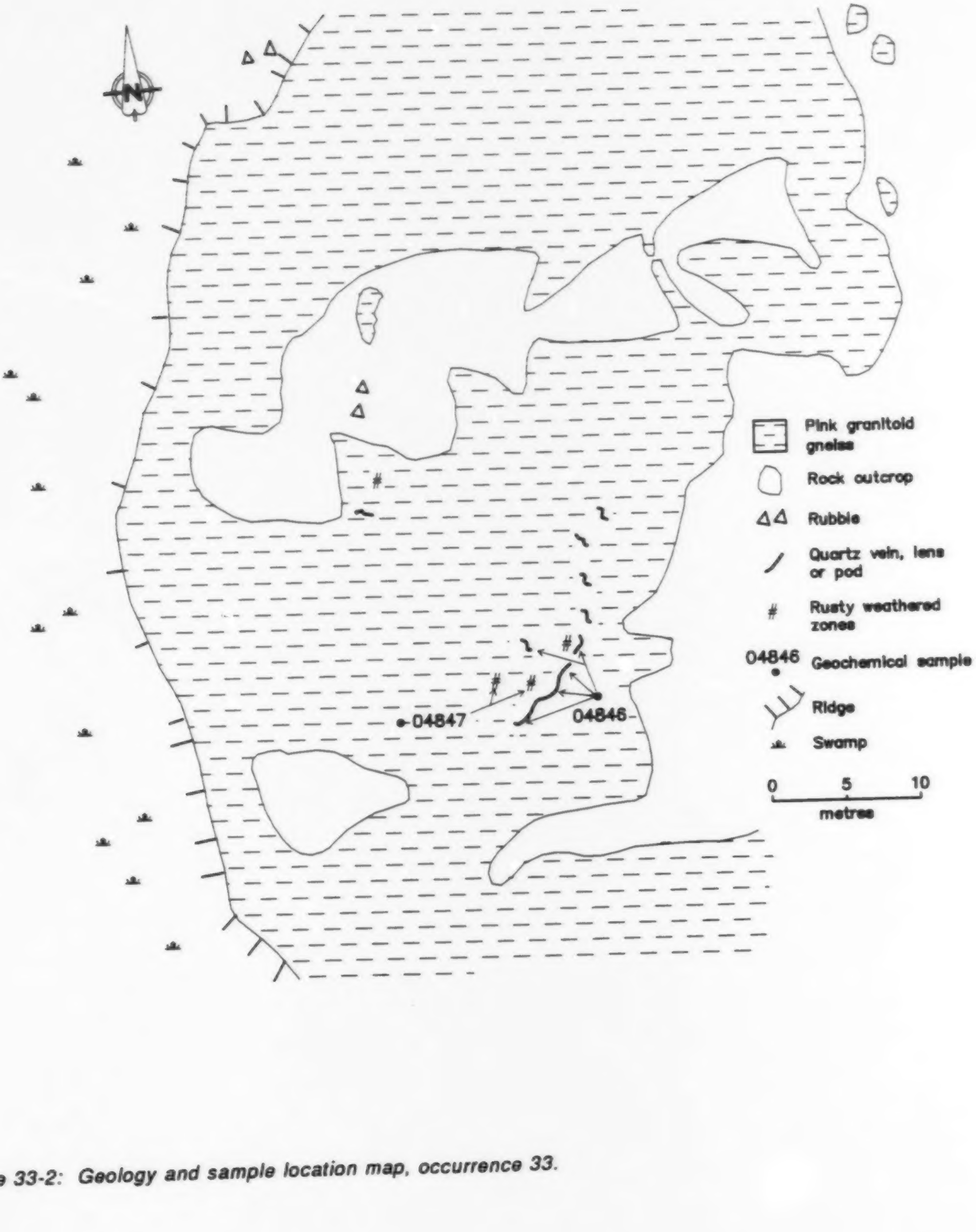

N
04847
04846
Pink granitoid gneiss
Rock outcrop
Rubble
Quartz vein, lens or pod
Rusty weathered zones
04846 Geochemical sample
Ridge
Swamp
0
5
10
metres

Figure 33-2: Geology and sample location map, occurrence 33.

LOCATION: **34**

NAME:

UTM: 6097263N/439958E

ACCESS: Bush plane to Stack Lake and traverse.

AREA: Stack Lake

AIRPHOTO: MB88026-53

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors were delineated throughout the survey area. HBED staked claim Zyl 10621 in 1980.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by amphibolite gneiss and by white to light grey, medium- to coarse-grained granitoid gneiss that characterize the core of the Herblet Lake Gneiss Dome Complex (Fig. 34-1; Bailes, 1975). The occurrence, situated on a narrow point on the east shore of Stack Lake, consists of silicified and rusty weathered amphibolite gneiss characterized by an anthophyllite-garnet-sulphide assemblage (Fig. 34-2).

MINERALIZATION:

Disseminated pyrite, chalcopyrite and magnetite, 3 to 5%, occurs within a rusty weathered, coarse grained anthophyllite-garnet assemblage developed within amphibolite gneiss.

GEOCHEMICAL DATA:

Representative outcrop chip sample (04667) was collected from the occurrence for multi-element geochemical analysis. The sample contains low base and precious metals (Appendix I).

CLASSIFICATION:

Stratabound massive sulphide type deposit; alteration zone associated with volcanic rocks. Although a maximum of 3 to 5% sulphide is present, the silicate-sulphide alteration assemblage is suggestive of alteration associated with Snow Lake base metal massive sulphide type deposits.

REFERENCES:

Assessment File 91624
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

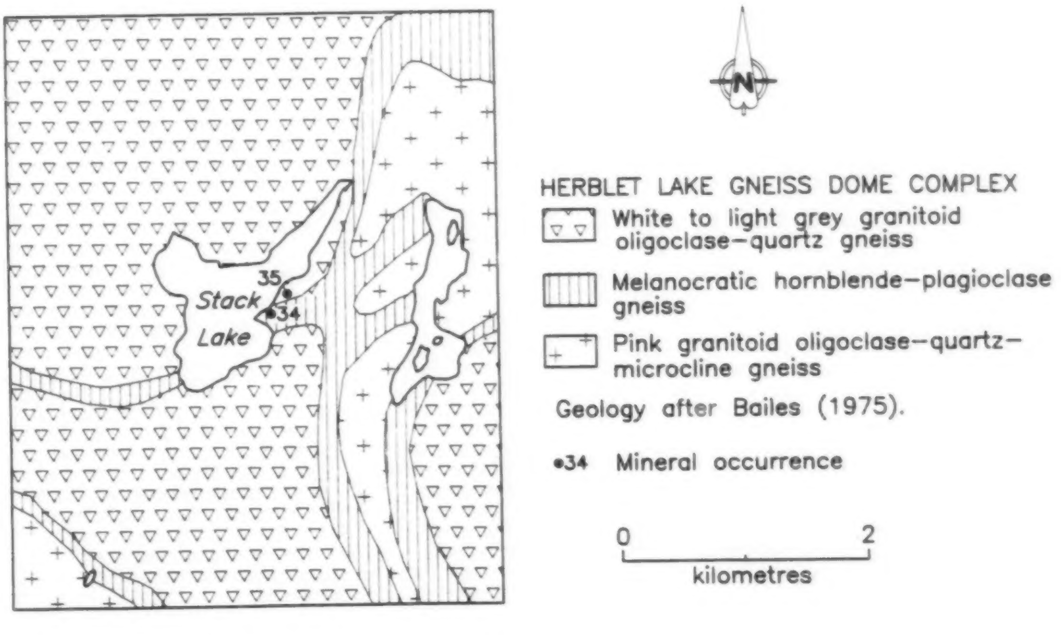

Stack
Lake
35
34
N
HERBLET LAKE GNEISS DOME COMPLEX
White to light grey granitoid oligoclase–quartz gneiss
Melanocratic hornblende–plagioclase gneiss
Pink granitoid oligoclase–quartz–microcline gneiss
Geology after Bailes (1975).
•34 Mineral occurrence
0
2
kilometres

Figure 34-1: Geological setting of occurrences 34 and 35.

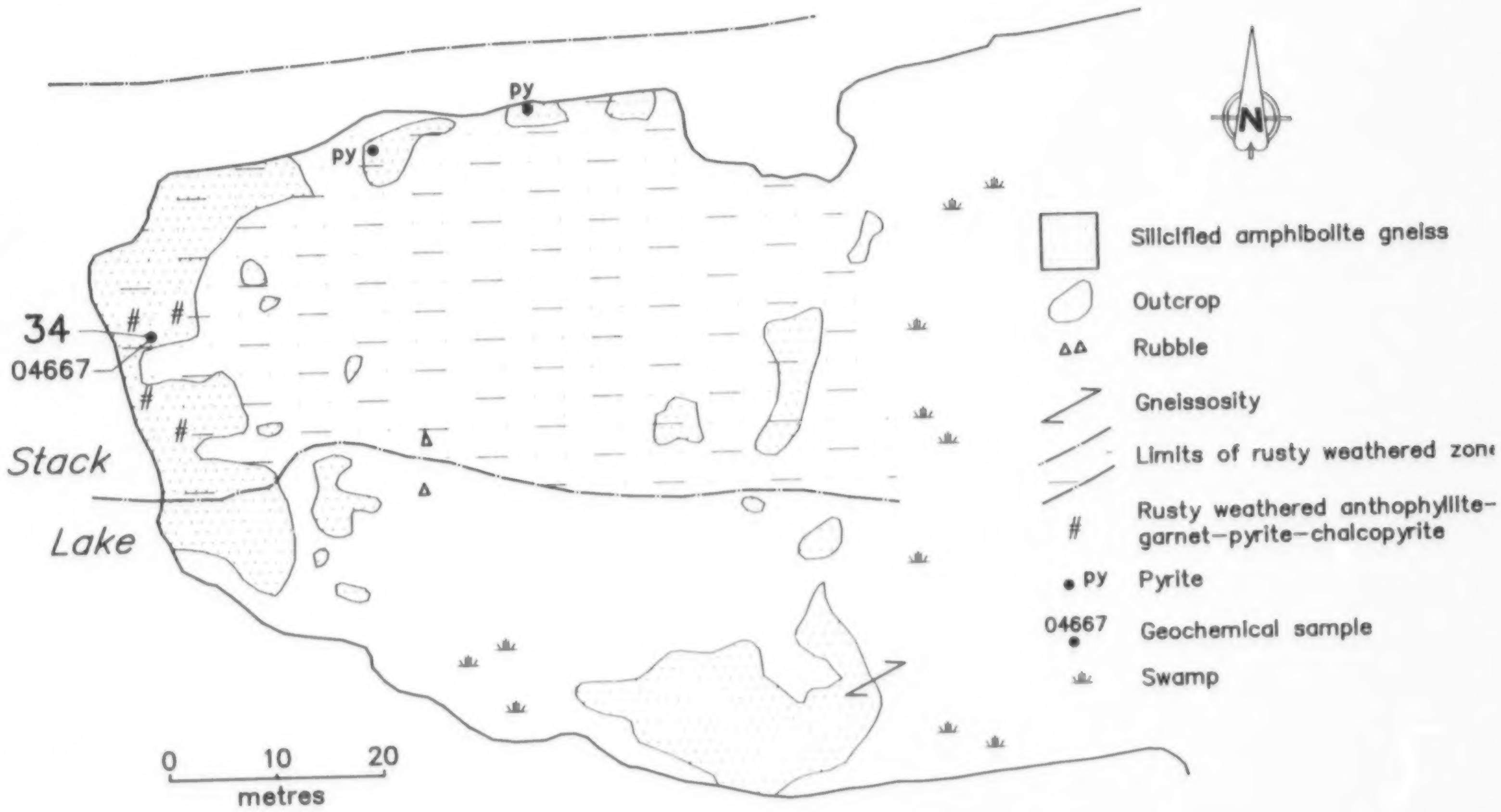

py
py
34
04667
Stack
Lake
N
0
10
20
metres
Silicified amphibolite gneiss
Outcrop
ΔΔ Rubble
Gneissosity
Limits of rusty weathered zon
# Rusty weathered anthophyllite-garnet-pyrite-chalcopyrite
py Pyrite
04667 Geochemical sample
Swamp

Figure 34-2: Geology and sample location map, occurrence 34.

LOCATION: 35

NAME:

UTM: 6097410N/440089E

ACCESS: Bush plane to Stack Lake and traverse.

AREA: Stack Lake

AIRPHOTO: MB88026-53

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors were delineated throughout the survey area. HBED staked claim Zyl 10621 in 1980.

GEOLOGICAL SETTING:

The general area of the occurrence is underlain by amphibolite gneiss and white to light grey, medium- to coarse- grained granitoid gneiss that characterize the core of the Herblet Lake Gneiss Dome Complex (Fig. 34-1; Bailes, 1975). Locally rusty, white to light grey granitoid gneiss is present in the area of the occurrence (Fig. 35-1).

MINERALIZATION:

Disseminated pyrite, 1 to 2%, occurs in white quartz pods and lenses within a nonmineralized pegmatite dyke.

GEOCHEMICAL DATA:

One representative outcrop chip sample (04666) was collected from the quartz vein for multi-element geochemical analysis. The sample contains low base and precious metals (Appendix I).

CLASSIFICATION:

Vein type deposit; multiple veins or lenses. The multiple pyritic quartz lenses or pods are hosted by pegmatite.

REFERENCES:

Assessment File 91624
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

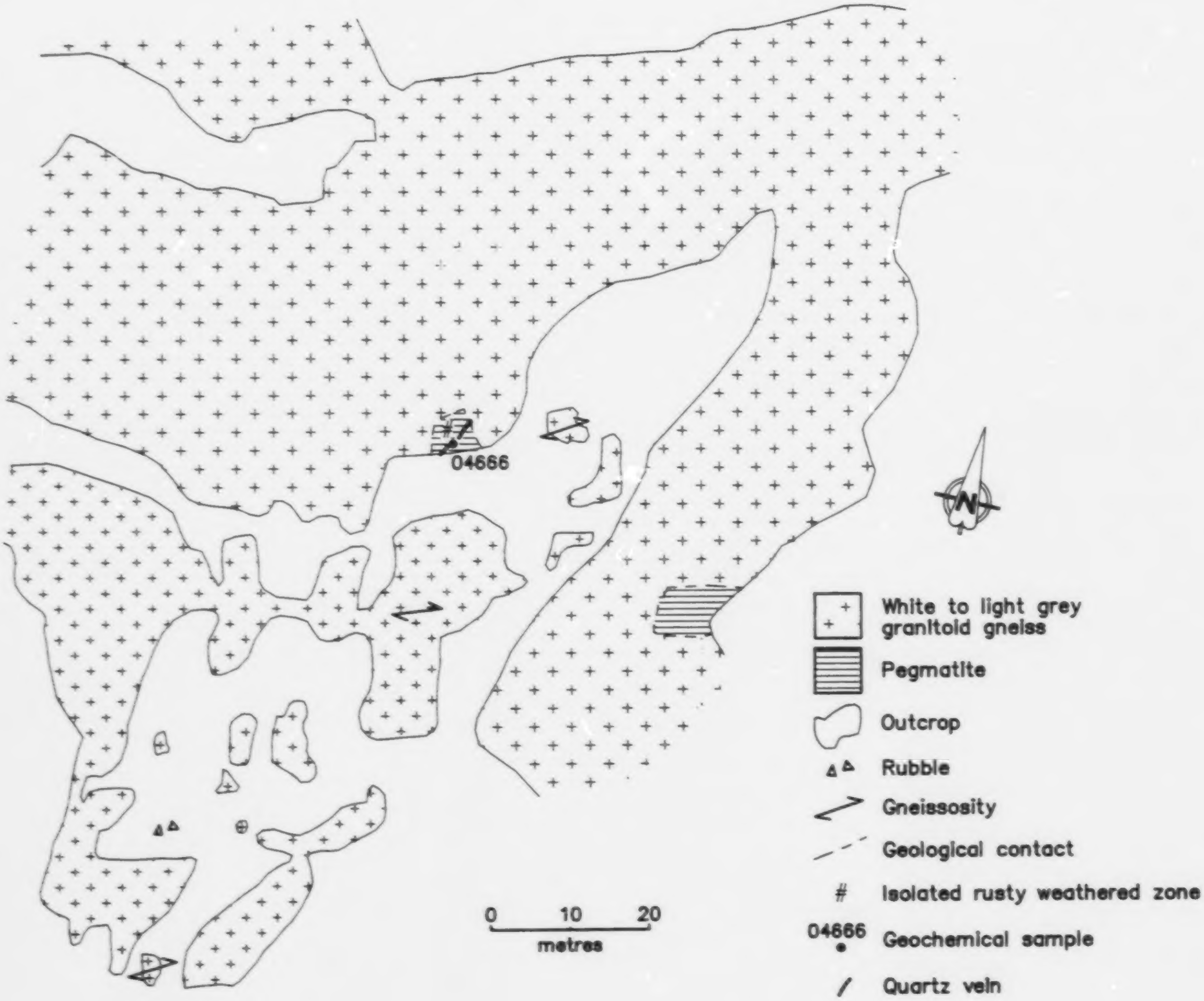

04666
N
0 10 20
metres
White to light grey granitoid gneiss
Pegmatite
Outcrop
Rubble
Gneissosity
Geological contact
# Isolated rusty weathered zone
04666 Geochemical sample
/ Quartz vein

Figure 35-1: Geology and sample location map, occurrence 35.

LOCATION: 36

NAME: (A.F. - Mineralization intersected by diamond drilling)

UTM: 6105602N/439913E

ACCESS: Bush plane to Gascoyne Lake and traverse.

AREA: Gascoyne Lake

AIRPHOTO: MB88026-47

EXPLORATION SUMMARY:

The area is included in an airborne EM and radiometric survey conducted by HBED in 1961 (A.F. 91628). This survey delineated approximately 150 airborne EM anomalies, but the radiometric survey did not identify anomalies considered to be worthy of ground follow-up. In 1971 HBED conducted 535 km of ground EM surveys and drilled five holes (450 m) on claim CB 135 (A.F. 90738). A.L. Parres Ltd. staked claims Lyz 11 and 12 in 1988; Lyz 11 was cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by long and short strike length ground EM geophysical conductors (A.F. 90738) situated at or near the contact between Missi Group arkose and subgreywacke to the south and Amisk Group greywacke, shale and derived migmatite gneiss to the north. Hornblende-plagioclase amphibolite gneiss occurs at the contact between the Missi and Amisk sedimentary sequences (Fig. 36-1; Bailes, 1975). Diamond drill holes, collared to test the conductors, intersected pegmatite, biotite-feldspar-garnet gneiss, mineralized hornblende-biotite-plagioclase gneiss and biotite granite.

MINERALIZATION:

Disseminated pyrite and hematite occur in hornblende-biotite-plagioclase gneiss that is locally garnetiferous and contains potash feldspar; it also contains quartz and carbonate veins. Conductive mud "seams", 0.1 to 0.2 m in core length were determined to be the cause for the ground geophysical conductors (DDH Zyl 50). Logs are not available for DDH Wim 36 (A.F. 90738).

GEOCHEMICAL DATA:

None.

CLASSIFICATION:

Disseminated mineralization - not classified. The relative paucity of diamond drilling (as reported in the cancelled assessment files) undertaken to test the geophysical conductors in the area prevents a thorough evaluation. The long strike length conductors may represent a chemical sediment type deposit; sulphide facies iron formation.

REFERENCES:

Assessment File 90738 and 91628
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lakes area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

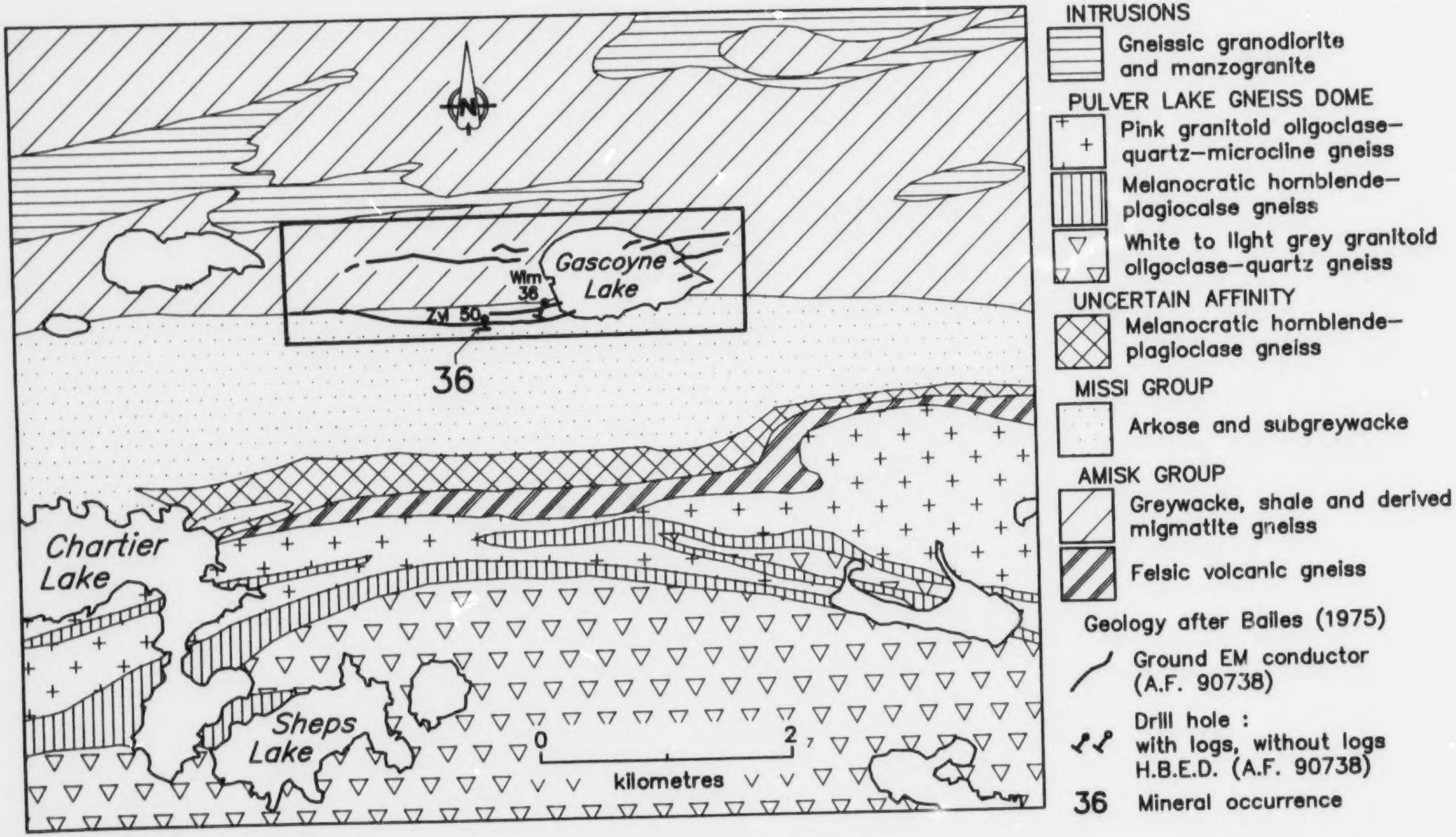

N
Gascoyne Lake
Wim 36
Zyl 50
36
Chartier Lake
Sheps Lake
0
2
kilometres
INTRUSIONS
Gneissic granodiorite and manzogranite
PULVER LAKE GNEISS DOME
Pink granitoid oligoclase–quartz–microcline gneiss
Melanocratic hornblende–plagiocalse gneiss
White to light grey granitoid oligoclase–quartz gneiss
UNCERTAIN AFFINITY
Melanocratic hornblende–plagioclase gneiss
MISSI GROUP
Arkose and subgreywacke
AMISK GROUP
Greywacke, shale and derived migmatite gneiss
Felsic volcanic gneiss
Geology after Bailes (1975)
Ground EM conductor (A.F. 90738)
Drill hole : with logs, without logs H.B.E.D. (A.F. 90738)
36 Mineral occurrence

Figure 36-1: Geological setting, ground EM geophysical conductors, and diamond drill hole locations, occurrence 36.

LOCATION: 37

NAME: (A.F. - Mineralization intersected by diamond drilling)

UTM: 6104557N/449753E

ACCESS: Bush plane to Dowling Lake and traverse.

AREA: North of Dowling Lake

AIRPHOTO: MB87009-87,-88, -167, -216, -217; MB87012-23, -24

EXPLORATION SUMMARY:

Portions of the area were included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors were delineated throughout the survey area. HBMS undertook airborne EM and radiometric surveys in 1961 and delineated approximately 150 airborne EM anomalies, but the radiometric survey did not identify anomalies considered worthy of ground follow-up (A.F.91628). In 1970 HBED undertook 684 km of ground EM surveys on claim CB 273 (A.F. 91499). A further 535 km of ground EM surveys were undertaken and five holes (450 m) were drilled in 1971 (A.F. 90738). A soil geochemical survey was undertaken by HBED in 1971 on claims CB 271 and 272 (A.F. 90741, 90742). An additional 30 km of ground EM surveys was undertaken and a single hole drilled (73 m) on claim CB 271 in 1971 (A.F. 90741). HBED drilled six more holes (529 m) on claim CB 143 in 1972 (A.F. 90740). A.L. Parres Ltd. staked claim Lym 3 in 1988; the claim was cancelled in 1990. Nine holes were drilled in the general area of the occurrence (Fig. 37-1).

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by long and short strike length ground EM geophysical conductors (A.F. 90738, 91499) situated within Missi Group arkose and subgreywacke, Amisk Group felsic volcanic gneiss and hornblende-plagioclase amphibolite gneiss of unknown affinity (Fig. 37-1; Bailes, 1975). Diamond drill holes, collared to test these geophysical conductors, intersected mineralized amphibole-biotite-quartz-feldspar gneiss and pegmatite (A.F. 90740).

MINERALIZATION:

DDH Zyl 66 intersected 2% disseminated pyrite over 0.1 m in light grey to black, fine- to medium-grained amphibole-biotite-quartz-feldspar gneiss. DDH Zyl 64 and 65 intersected nonmineralized rocks. Logs are not available for DDH Wim 60 to Wim 64 and Zyl 61. Notes written on geophysical base maps adjacent to the collar location for DDH Wim 63 indicate that it intersected chalcopyrite, sphalerite, pyrite and graphite in drill core (A.F. 90740, 90743).

GEOCHEMICAL DATA:

Approximately 4200 soil samples were collected by HBED from the general vicinity of the occurrence (A.F. 90741, 90742; Fig. 37-2). The samples were collected approximately 1 to 5 cm below surface, immediately below the level of overburden consolidation. Rock chips and loose muskeg were avoided during sampling. About 50 g of samples were collected with a metal trowel and placed in a paper envelope from stations every 30 m along grid lines spaced 100 m apart. Samples were field dried then screened to obtain the -80 mesh. For each sample one gram of -80 mesh soil was leached with 25% HNO_3 for one hour at 100°C. The samples were filtered and then made up to 50 ml using distilled water. Samples were analysed for copper, lead, zinc and nickel using atomic absorption spectrophotometry. Numerous single and multiple sample anomalies with good background:anomaly contrast are present in the data. Anomaly specifications are given in Table 37-1.

CLASSIFICATION:

Chemical sediment type deposit; sulphide facies iron formation.

REFERENCES:

Assessment Files 90738, 90740, 90741, 90742, 91499, 91624 and 91628
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lake area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

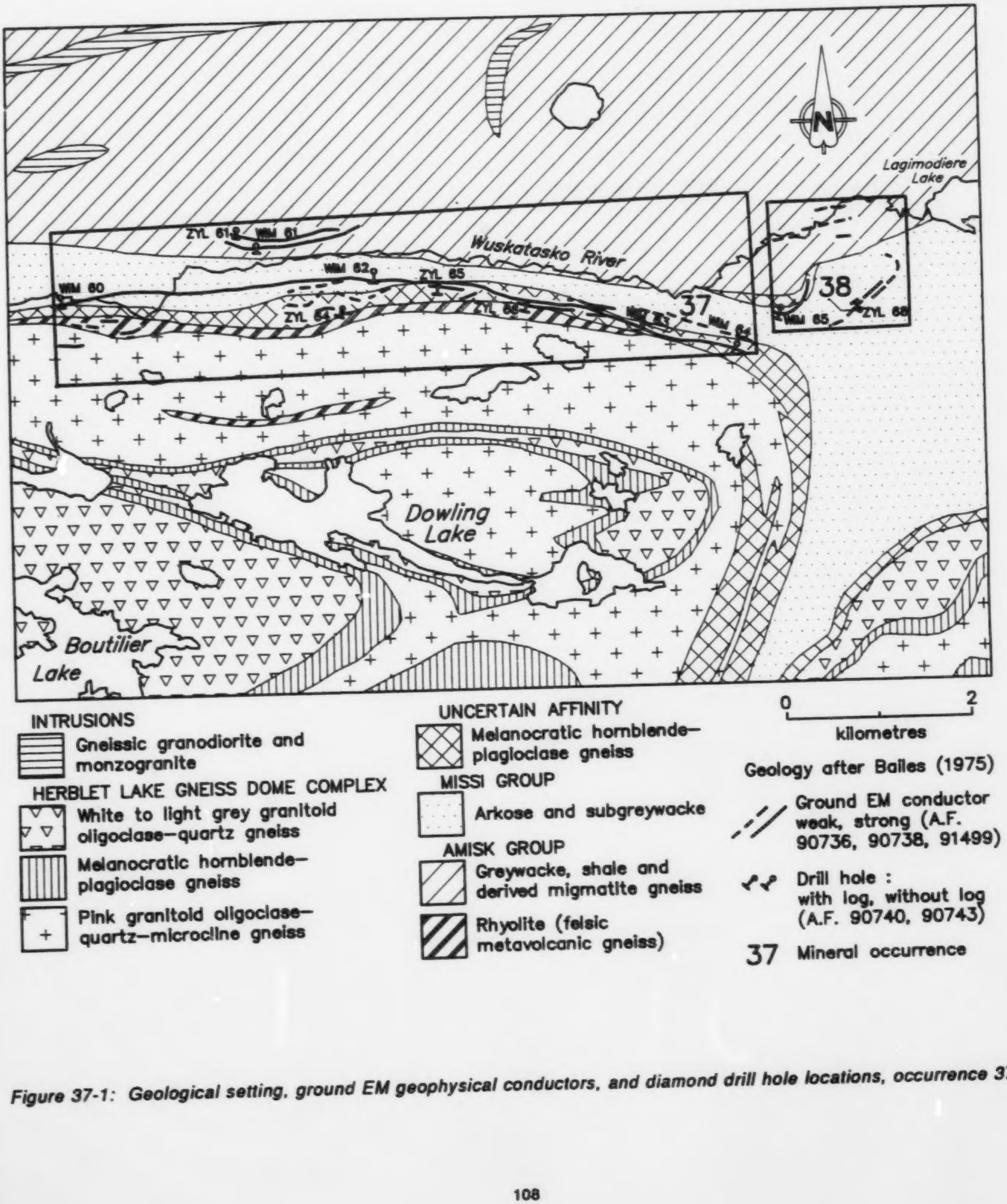

Lagimodiere Lake
Wuskatasko River
ZYL 61
WM 61
WM 62
ZYL 65
WM 60
ZYL 64
ZYL 66
37
WM 64
38
WM 65
ZYL 68
Dowling Lake
Boutilier Lake
N
0
2
kilometres
INTRUSIONS
Gneissic granodiorite and monzogranite
HERBLET LAKE GNEISS DOME COMPLEX
White to light grey granitoid oligoclase—quartz gneiss
Melanocratic hornblende—plagioclase gneiss
Pink granitoid oligoclase—quartz—microcline gneiss
UNCERTAIN AFFINITY
Melanocratic hornblende—plagioclase gneiss
MISSI GROUP
Arkose and subgreywacke
AMISK GROUP
Greywacke, shale and derived migmatite gneiss
Rhyolite (felsic metavolcanic gneiss)
Geology after Bailes (1975)
Ground EM conductor weak, strong (A.F. 90736, 90738, 91499)
Drill hole : with log, without log (A.F. 90740, 90743)
37 Mineral occurrence

Figure 37-1: Geological setting, ground EM geophysical conductors, and diamond drill hole locations, occurrence 37.

TABLE 37-1: SOIL GEOCHEMICAL ANOMALY DESCRIPTIONS, OCCURRENCE 37

ELEMENT	CONCENTRATION IN ANOMALY	BACKGROUND	COMMENTS
Cu	50-235 ppm	5-25 ppm	multiple anomalies south of Wuskatasko river
Pb	25-190 ppm	5-25 ppm	multiple anomalies north and south of Wuskatasko River; most are south of river
Zn	100 ppm-2.17%	5-50 ppm	multiple anomalies north and south of Wuskatasko River
Ni	20-345 ppm	5-30 ppm	multiple anomalies north and south of Wuskatasko River

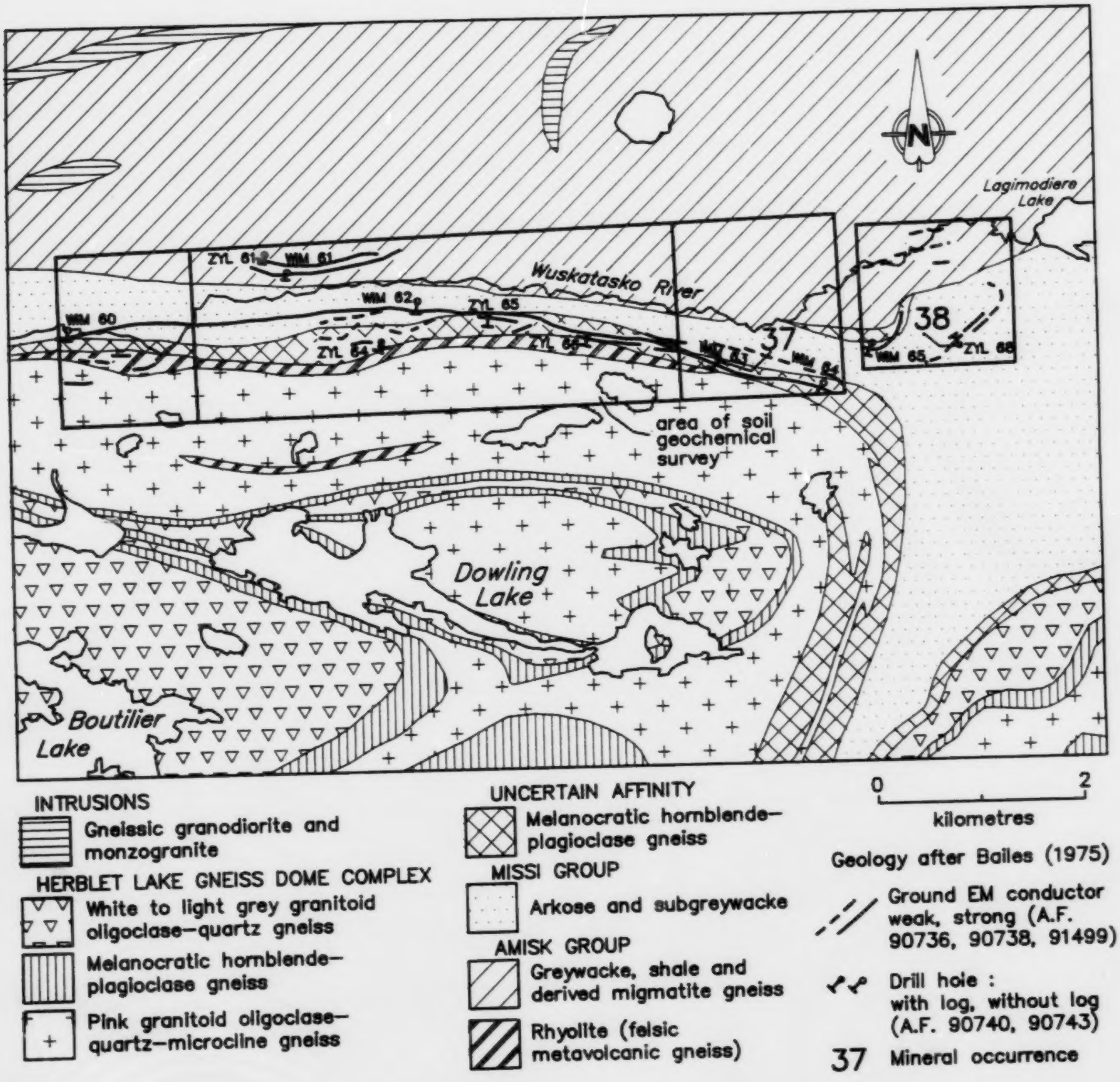

N
Lagimodiere Lake
Wuskatasko River
ZYL 61
WM 61
WM 62
ZYL 65
WM 60
ZYL 64
ZYL 66
37
WM 64
38
WM 65
ZYL 68
area of soil geochemical survey
Dowling Lake
Boutilier Lake
INTRUSIONS
Gneissic granodiorite and monzogranite
HERBLET LAKE GNEISS DOME COMPLEX
White to light grey granitoid oligoclase-quartz gneiss
Melanocratic hornblende-plagioclase gneiss
Pink granitoid oligoclase-quartz-microcline gneiss
UNCERTAIN AFFINITY
Melanocratic hornblende-plagioclase gneiss
MISSI GROUP
Arkose and subgreywacke
AMISK GROUP
Greywacke, shale and derived migmatite gneiss
Rhyolite (felsic metavolcanic gneiss)
0
2
kilometres
Geology after Bailes (1975)
Ground EM conductor weak, strong (A.F. 90736, 90738, 91499)
Drill hole : with log, without log (A.F. 90740, 90743)
37 Mineral occurrence

Figure 37-2: Location map for soil geochemical surveys, occurrence 37.

LOCATION: 38

NAME: (A.F. - Mineralization intersected by diamond drilling)

UTM: 6104583N/452115E

ACCESS: Bush plane to Lagimodiere Lake and traverse.

AREA: Northeast of Dowling Lake (Fig. 37-1)

AIRPHOTO: MB87012-44

EXPLORATION SUMMARY:

Portions of the area were included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors were delineated throughout the survey area. HBM&S undertook airborne EM and radiometric surveys in the area in 1961 and delineated approximately 150 airborne EM anomalies, but the radiometric survey did not identify anomalies considered worthy of ground follow-up (A.F. 91628). A total of fifteen holes were drilled in the general area of the occurrence; two of these holes are relevant to this location (Fig. 37-1). In 1957 HBED undertook 1901 km of ground EM surveys and drilled six holes (570 m) on the Tie claims (A.F. 90736). HBED undertook an additional 684 km of ground EM surveys on claim CB 273 in 1970 (A.F. 91499) and drilled nine holes (785 m) on claim CB 275 in 1972 (A.F. 90743)

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by long and short strike length ground EM geophysical conductors (A.F. 90736, 91499) that occur at or near the contact between Amisk Group greywacke, shale and derived migmatite, and Missi Group arkose and subgreywacke. A hornblende-plagioclase amphibolite of uncertain affinity also occurs at this contact (Fig. 37-1; Bailes, 1975). Diamond drill holes, collared to test these conductors, intersected mineralized fine- to medium-grained quartz-biotite-amphibole-feldspar gneiss, magnetiferous pegmatite and rusty weathered "volcanic tuff" (A.F. 90743).

MINERALIZATION:

Oxidized, disseminated pyrite occurs in a 1 m long intersection of volcanic tuff in core from DDH Zyl 68. Pegmatite dykes, intruding quartz-biotite-amphibole-feldspar gneiss, contain 2 to 5% disseminated magnetite (A.F. 90743). DDH Wim 865 was drilled in the area, but core logs are not available.

GEOCHEMICAL DATA:

None.

CLASSIFICATION:

Disseminated mineralization - not classified. The rocks intersected by DDH Zyl 68 do not contain mineralization that would account for the geophysical conductors in the occurrence area.

REFERENCES:

Assessment Files 90736, 90743, 91499, 91624 and 91628
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lake area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

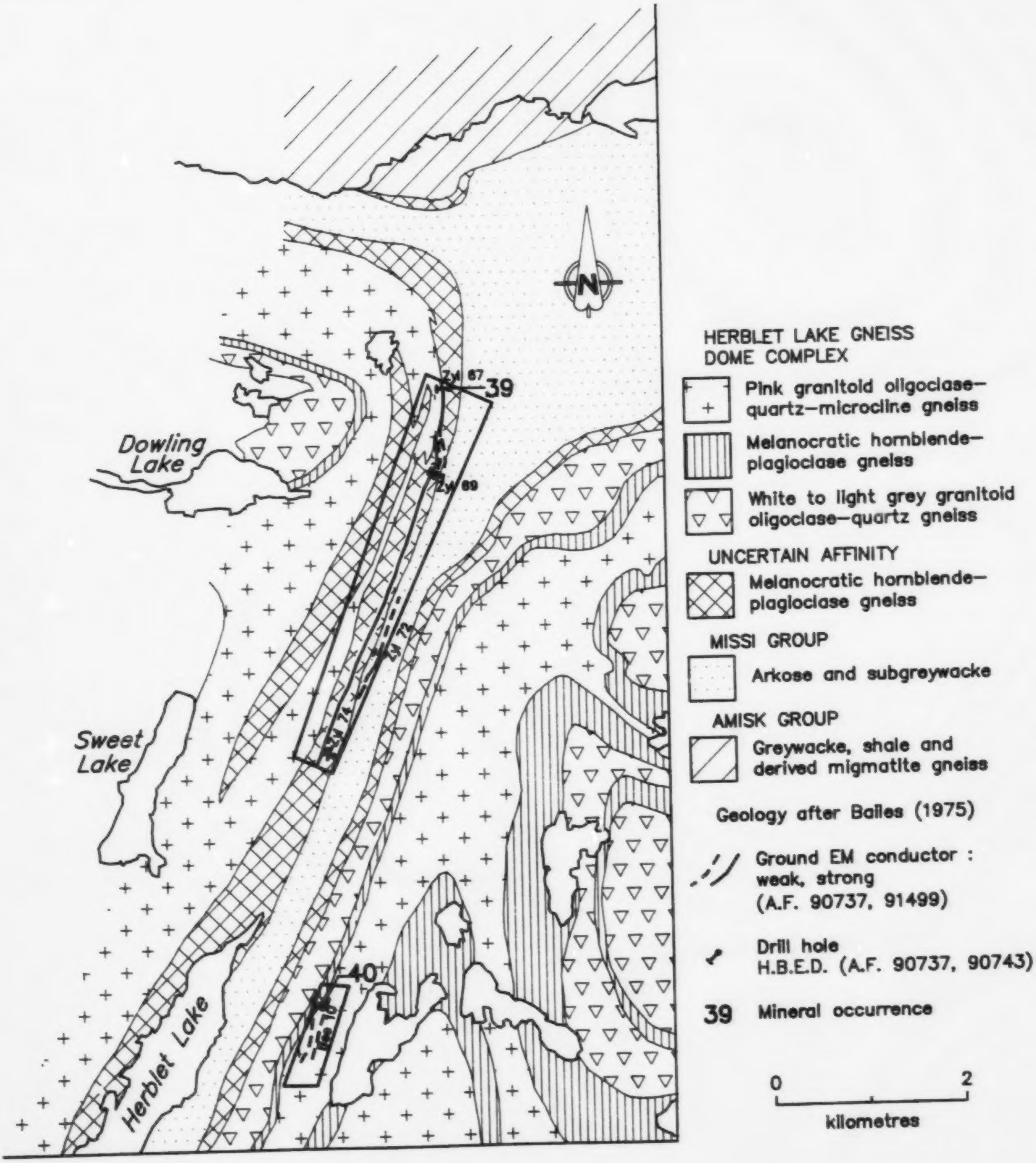

Dowling Lake
Sweet Lake
Herblet Lake
N
Zyl 67
39
Zyl 69
Zyl 72
Zyl 74
40
HERBLET LAKE GNEISS DOME COMPLEX
Pink granitoid oligoclase–quartz–microcline gneiss
Melanocratic hornblende–plagioclase gneiss
White to light grey granitoid oligoclase–quartz gneiss
UNCERTAIN AFFINITY
Melanocratic hornblende–plagioclase gneiss
MISSI GROUP
Arkose and subgreywacke
AMISK GROUP
Greywacke, shale and derived migmatite gneiss
Geology after Bailes (1975)
Ground EM conductor : weak, strong (A.F. 90737, 91499)
Drill hole H.B.E.D. (A.F. 90737, 90743)
39 Mineral occurrence
0
2
kilometres

Figure 39-1: Geological setting, ground EM geophysical conductors, and diamond drill hole locations, occurrence 39 and 40.

LOCATION: 39

NAME: (A.F. - Mineralization intersected by diamond drilling)

UTM: 6102852N/451406E

ACCESS: Bush plane to Dowling Lake and traverse.

AREA: Northeast of Northeast Arm, Herblet Lake

AIRPHOTO: MB87012-20, -21, -46

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors were delineated throughout the survey area. In 1970 HBED undertook 684 km of ground EM surveys on claim CB 273 (A.F. 91499). HBED drilled nine holes (785 m) on claim CB 275 in 1972 (A.F. 90743). A.L. Parres Ltd. staked claims Lym 9, 13 and 15 in 1988; the claims were cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by long and short strike length ground EM conductors (A.F. 91499) situated at or near the contact between pink granitoid gneiss, representing the eastern flank of the Herblet Lake Gneiss Dome Complex, and hornblende-plagioclase amphibolite gneiss of unknown affinity. These rocks are flanked to the east by Missi Group arkose and subgreywacke (Fig. 39-1; Bailes, 1975). Diamond drill holes, collared to test the geophysical conductors in the area, intersected mineralized amphibole-feldspar-quartz ± biotite ± pyroxene gneiss, serpentinite, pegmatite and chemical sedimentary rocks (A.F. 90743).

MINERALIZATION:

Disseminated to near solid graphite ± pyrite zones were intersected by each of DDH Zyl 67, -69, -72 and -74. DDH Zyl 67 intersected intervals of trace to near solid graphite and trace to 5% pyrite with core thicknesses between 0.1 and 1.5 m. A 0.2 m interval of 95% graphite was intersected by DDH Zyl 74. The host rocks to these mineralized zones are amphibole-quartz-feldspar ± biotite and "carbonate" gneisses (A.F. 90743).

GEOCHEMICAL DATA:

None.

CLASSIFICATION:

Chemical sediment type deposit; sulphide facies iron formation.

REFERENCES:

Assessment Files 90743, 91499 and 91624
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lake area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

LOCATION: 40

NAME: (A.F. - Mineralization intersected by diamond drilling)

UTM: 6096345N/449998E

ACCESS: Boat to Northeast Arm, Herblet Lake and traverse.

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors were delineated throughout the survey area. In 1961 HBED drilled thirteen holes (1309 m) on their Bee claims (A.F. 90737). Only DDH Bee 10 is relevant to this location (Fig. 39-1). In 1970 HBED undertook 684 km of ground EM surveys on claim CB 273 (A.F. 91499). HBED staked claim Bur 10712 in 1980.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by pink granitoid gneiss, melanocratic amphibolite gneiss and white to light-grey granitoid gneiss. The three lithologies represent the Herblet Lake Gneiss Dome Complex in this area. The gneisses are flanked to the west by Missi Group arkose and subgreywacke and hornblende-plagioclase amphibolite gneiss of uncertain affinity (Fig. 39-1; Bailes, 1975). Long and short strike length ground EM conductors in the area of the occurrence (A.F. 90737, 91499) are situated at or near the contact between pink granitoid gneiss and melanocratic amphibolite gneiss. Diamond drill holes, collared to test these conductors, intersected granitized, mineralized quartz-feldspar-biotite gneiss, quartz-plagioclase-biotite-hornblende gneiss and garnetiferous hornblende-biotite-plagioclase gneiss (A.F. 90737).

AREA: Northeast Arm, Herblet Lake (Fig. 39-1)

AIRPHOTO: MB87012-18

MINERALIZATION:

DDH Bee 10 intersected two mineralized zones. Zone 1 is 1.2 m long in core length and contains "slightly mineralized pyrrhotite" with trace chalcopyrite. Zone 2 is 0.8 m in core length and contains "well mineralized pyrrhotite". Both zones are hosted by fine grained quartz-plagioclase-biotite gneiss (A.F. 90737, 91499).

GEOCHEMICAL DATA:

None.

CLASSIFICATION:

Chemical sediment type deposit; sulphide facies iron formation.

REFERENCES:

Assessment Files 90737, 91499 and 91624
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lake area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

LOCATION: 41

NAME: (A.F. - Mineralization intersected by diamond drilling)

UTM: 6097755N/456237E

ACCESS: Bush plane to small lake southeast of Pulver Lake and traverse.

AREA: Southeast of Pulver Lake

AIRPHOTO: MB87012-140

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors were delineated throughout the survey area. In 1984 HBED drilled one hole (69 m) on claim CB 10722 (A.F. 92748). Granges Exploration Ltd. staked claim Zit 9 in 1987; the claim was cancelled in 1990.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by white to light grey granitoid gneiss, amphibolite gneiss and pink granitoid gneiss. These three lithologic components characterize the Herblet Lake Gneiss Dome Complex in this area (Fig. 41-1; Bailes, 1975). Diamond drill hole Bur 99, collared to test a ground EM conductor, intersected amphibolite gneiss, interpreted to represent a layered mafic to intermediate tuff, granodiorite gneiss, pegmatite and mineralized greywacke (A.F. 92748).

MINERALIZATION:

DDH Bur 99 intersected 1.6 m of laminated, disseminated and near solid pyrrhotite and pyrite with minor disseminated chalcopyrite, sphalerite and molybdenite. The host rocks are described as grey metagreywacke gneiss with coarse grained quartz-feldspar mobilizate and pegmatite containing a light green feldspar (microcline?).

GEOCHEMICAL DATA:

Nine samples with lengths from 0.1 to 0.5 m were collected from drill core for assay. The samples contain 0.01 to 0.18% Cu, 0.01 to 0.18% Zn and nil Au and Ag (A.F. 92748).

CLASSIFICATION:

Chemical sediment type deposit; sulphide facies iron formation.

REFERENCES:

Assessment Files 91624 and 92748
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lake area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

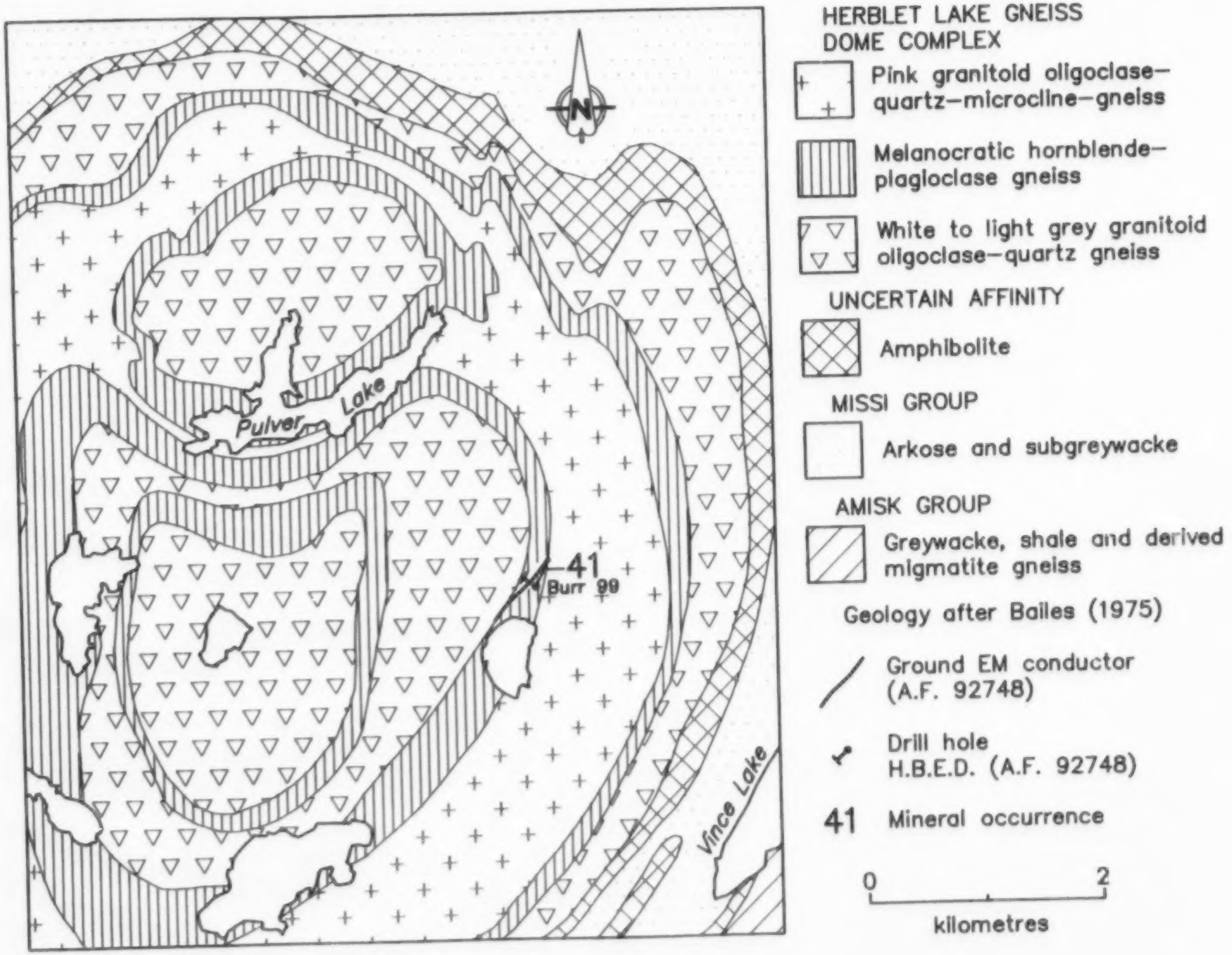

Pulver Lake
Vince Lake
N
41
Burr 99
HERBLET LAKE GNEISS DOME COMPLEX
Pink granitoid oligoclase–quartz–microcline–gneiss
Melanocratic hornblende–plagioclase gneiss
White to light grey granitoid oligoclase–quartz gneiss
UNCERTAIN AFFINITY
Amphibolite
MISSI GROUP
Arkose and subgreywacke
AMISK GROUP
Greywacke, shale and derived migmatite gneiss
Geology after Bailes (1975)
Ground EM conductor (A.F. 92748)
Drill hole H.B.E.D. (A.F. 92748)
41 Mineral occurrence
0
2
kilometres

Figure 41-1: Geological setting, ground EM geophysical conductors, and diamond drill hole location, occurrence 41.

LOCATION: 42

NAME: (A.F. - Mineralization intersected by diamond drilling)

UTM: 6094900N/456749E

ACCESS: Bush plane and traverse.

AREA: West of Vince Lake

AIRPHOTO: MB87012-142

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957(A.F. 91624). As a result of this survey, multiple long and short strike length conductors were delineated throughout the survey area. In 1957 Selco Exploration undertook 518 km of ground EM surveys and drilled eight holes (805 m) on the OZ claims (A.F. 90080). HBED undertook 1901 km of ground EM surveys and drilled six holes (570 m) on the Tie claims in 1957 (A.F. 90736). HBED staked claim Bur 10704 in 1980. Of the fourteen holes drilled in the general area of the occurrence only DDH OZ-8 is relevant to this location (Fig. 42-1).

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by hornblende-plagioclase gneiss flanked to the east and west by Missi Group arkose and subgreywacke (Fig. 42-1; Bailes, 1975). Diamond drill holes, collared to test long and short strike length ground EM conductors (A.F. 90736), intersected "sedimentary" gneiss, locally mineralized hornblende-feldspar gneiss and mineralized siliceous gneiss.

MINERALIZATION:

DDH OZ 8 intersected 3.2 m of siliceous gneiss with "narrow" layers of "massive" pyrrhotite and pyrite, as well as erratically distributed pyrite and pyrrhotite. The average sulphide content over this 3.2 m interval is 10%. Additionally, a 5 cm thick quartz vein with disseminated pyrrhotite and chalcopyrite was intersected. Hornblende-feldspar gneiss is the host rock for both mineralized zones (A.F. 90080).

GEOCHEMICAL DATA:

None.

CLASSIFICATION:

Chemical sediment type deposit; sulphide facies iron formation. In addition, a vein type deposit; single vein occurs in DDH OZ-8.

REFERENCES:

Assessment Files 90080, 90736 and 91624
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lake area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

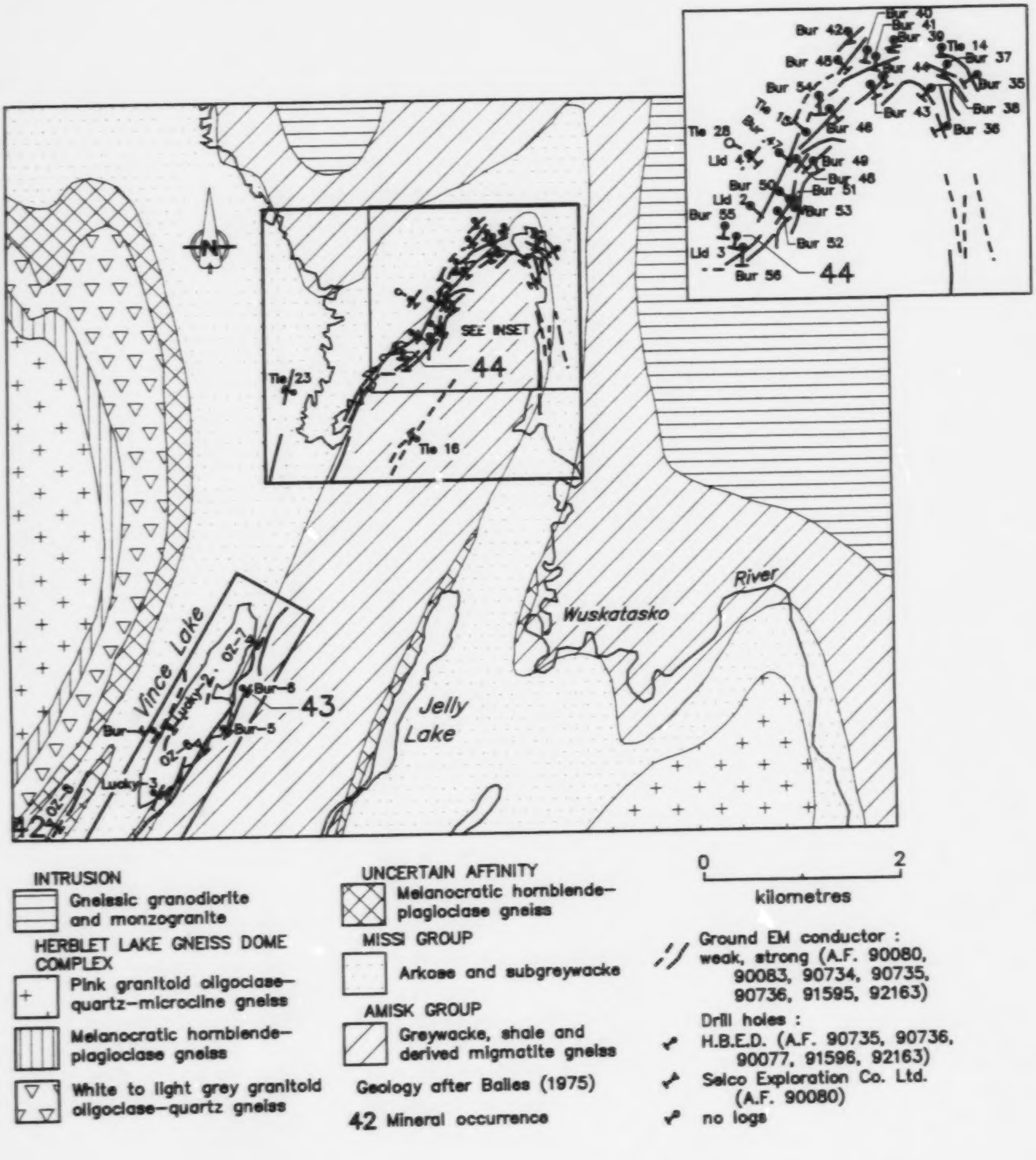

Bur 42
Bur 40
Bur 41
Bur 39
Tie 14
Bur 37
Bur 45
Bur 44
Bur 35
Bur 54
Bur 43
Bur 38
Tie 15
Tie 28
Bur 47
Bur 46
Bur 36
Lid 4
Bur 49
Bur 48
Bur 50
Bur 51
Lid 2
Bur 53
Bur 55
Bur 52
Lid 3
Bur 56
44
SEE INSET
44
Tie 23
Tie 16
N
Wuskatasko
River
Vince Lake
Lucky-2
OZ-7
Bur-6
43
Bur-4
Bur-5
OZ-6
Lucky-3
OZ-5
42
Jelly Lake
0
2
kilometres
INTRUSION
Gneissic granodiorite and monzogranite
HERBLET LAKE GNEISS DOME COMPLEX
Pink granitoid oligoclase-quartz-microcline gneiss
Melanocratic hornblende-plagioclase gneiss
White to light grey granitoid oligoclase-quartz gneiss
UNCERTAIN AFFINITY
Melanocratic hornblende-plagioclase gneiss
MISSI GROUP
Arkose and subgreywacke
AMISK GROUP
Greywacke, shale and derived migmatite gneiss
Geology after Bailes (1975)
42 Mineral occurrence
Ground EM conductor : weak, strong (A.F. 90080, 90083, 90734, 90735, 90736, 91595, 92163)
Drill holes :
H.B.E.D. (A.F. 90735, 90736, 90077, 91596, 92163)
Selco Exploration Co. Ltd. (A.F. 90080)
no logs

Figure 42-1: Geological setting, ground EM geophysical conductors, and diamond drill hole locations, occurrences 42, 43 and 44.

LOCATION: 43

NAME: (A.F. - Mineralization intersected by diamond drilling)

AREA: Vince Lake, southeast of Pulver Lake (Fig. 42-1)

UTM: 6096245N/458720E

AIRPHOTO: MB87012-209, -210

ACCESS: Bush plane and traverse.

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors were delineated throughout the survey area. In 1957 Selco Exploration undertook 518 km of ground EM surveys and drilled eight holes (805 m) on the OZ claims (A.F. 90080). HBED undertook 79 km of ground EM surveys on the Lucky claims in 1969 (A.F. 90083) and drilled six holes (797 m) on these claims in 1970 (A.F. 90077). HBED drilled two holes (272 m) on the Bur claims in 1970 (A.F. 92163). HBED staked claim Bur 10706 in 1980. Of the sixteen holes drilled in the general area of the occurrence only seven are relevant to this location (Fig. 42-1).

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by Missi Group arkose and subgreywacke, Amisk Group greywacke, shale and derived migmatite gneiss, and minor hornblende-plagioclase gneiss of uncertain affinity (Fig. 42-1; Bailes, 1975). Diamond drill holes, collared to test long and short strike length ground EM conductors (A.F. 90080, 90083, 92163), intersected grey, fine- to coarse-grained quartz-biotite-hornblende-almandine-feldspar gneiss, fine grained chlorite-serpentine schist, pegmatite, quartz-rich gneiss and chemical sedimentary rocks (A.F. 90077, 90080, 92163).

MINERALIZATION:

The long and short strike length ground EM geophysical conductors on the east shore of Vince Lake are situated at or near the contact between Amisk Group greywacke, shale and derived migmatite gneiss to the east and Missi Group arkose and subgreywacke to the west. These geophysical conductors are attributed to alternating layers of quartz-rich gneiss and graphitic gneiss. The graphitic gneiss varies between 2.3 and 16.5 m in core length and contains trace to 20% graphite, trace to 14% pyrite and less than 1% pyrrhotite and sphalerite. Graphitic gneiss in DDH OZ 6 and OZ 7 is talcose and sericitic. The thickest intersection of graphite-iron sulphide mineralization (16.5 m) occurs in DDH Bur 6 and is developed in fine grained quartz-feldspar-biotite ± almandine gneiss. The ground EM conductor on the west shore of Vince Lake is related to 1 m of chlorite-serpentine schist (DDH Lucky 2; A.F. 90077). Logs are not available for DDH Bur 4.

GEOCHEMICAL DATA:

None.

CLASSIFICATION:

Chemical sediment type deposit; sulphide facies iron formation.

REFERENCES:

Assessment Files 90077, 90080, 90083, 91624 and 92163
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lake area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

LOCATION: 44

NAME: (A.F. - Mineralization intersected by diamond drilling)

UTM: 6099642N/460355E

ACCESS: Bush plane to Vince Lake and traverse; alternately, bush plane to Vince Lake and all-terrain vehicle.

AREA: Northeast of Vince Lake (Fig. 42-1)

AIRPHOTO: MB87012-211, -212, -230, -231, -232

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors were delineated throughout the survey area. HBMS undertook airborne EM and radiometric surveys in the area in 1961 and delineated approximately 150 airborne EM anomalies, but the radiometric survey did not identify anomalies considered worthy of ground follow-up (A.F. 91628). Portions of the area were included in an airborne EM and magnetometer survey conducted by Newmont Exploration Ltd. in 1958 (A.F. 90002). In 1957 HBED undertook 2022 km of ground EM surveys on the Echo and Tie claims (A.F. 90734, 90736). In the same year they drilled three holes (245 m) on the Lid claims (A.F. 90735). HBED drilled twenty-two holes (1789 m) on the Bur claims in 1972 (A.F. 91595). Granges Exploration Limited staked claims Snow 1 and 3 in 1984 and Snow 10 in 1985.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by Amisk Group greywacke, shale and derived migmatite gneiss and Missi Group arkose and subgreywacke (Fig. 42-1; Bailes, 1975). The occurrence is marked by multiple long and short strike length *en echelon* ground EM geophysical conductors situated at or near the contact between the Amisk and Missi Group sedimentary sequences. Diamond drill holes, collared to test these geophysical conductors, intersected quartz-biotite ± garnet ± chlorite ± sericite gneiss, pegmatite, granite, quartz diorite, biotite-sericite ± chlorite ± carbonate schists, sericite schist, hornblende-quartz gneiss and chemical sedimentary rocks (A.F. 90735, 90736, 91595).

MINERALIZATION:

Mineralization intersected by diamond drilling is characterized by multiple zones of less than 10% disseminated pyrite, pyrrhotite and graphite. This type of disseminated mineralization commonly occurs over core intervals of 0.5 to 10 m in variably altered quartz-biotite schists. Exceptions include:

1) DDH Bur 49 intersected six mineralized intervals varying from 0.7 to 1.5 m in core length with 2 to 50% graphite and 0 to 4% pyrite, including a 1.5 m section of 20 to 50% graphite and 0 to 1% pyrite, hosted by quartz-biotite-sericite-chlorite schist (A.F. 91595).
2) DDH Lid 3 intersected solid graphite with "slight" pyrite over 6.9 m (A.F. 90735); and,
3) DDH Tie 14 intersected nine mineralized zones varying from 1.1 to 6.1 m that contain "slight" to "well" mineralized pyrite, pyrrhotite and graphite within biotite-chlorite ± quartz ± sericite ± carbonate schist.

Base metals are conspicuously absent from these mineralized zones with the exception of small films or veinlets of chalcopyrite in dominantly pyritic zones. The chalcopyrite is interpreted to represent mobilizate.

All thirty diamond drill holes collared to test the geophysical anomalies contained sulphides with the following exceptions:

1) Abandoned in overburden; Bur 40, 51
2) No drill logs: Tie 16, 23, 28
3) Nonmineralized: Bur 36, 38, 43, 46.

GEOCHEMICAL DATA:

None.

CLASSIFICATION:

Chemical sediment type deposit; sulphide facies iron formation.

REFERENCES:

Assessment Files 90002, 90734, 90735, 90736, 91595, 91624 and 91628
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lake area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

LOCATION: 45

NAME: (A.F. - Mineralization intersected by diamond drilling)

UTM: 6095899N/460467E

ACCESS: Bush plane to Jelly Lake and traverse.

AREA: Jelly Lake, east of Vince Lake

AIRPHOTO: MB87012-208, -233, -234

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors were delineated throughout the survey area. In 1958 Newmont Exploration Ltd. undertook airborne EM and magnetometer surveys in the general occurrence area (A.F. 90002). In 1957 HBED undertook 1901 km of ground EM surveys and drilled six holes (570 m) on their Tie claims (A.F. 90736). HBED staked claim Bur 10739 in 1980. Of the six holes drilled in the general area of the occurrence only DDH 6 is relevant to this location (Fig. 45-1).

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by Missi Group arkose and subgreywacke in the east and Amisk Group greywacke, shale and derived migmatite gneiss in the west. These two sequences are separated by a thin, linear hornblende-plagioclase gneiss of uncertain affinity (Fig. 45-1; Bailes, 1975). Diamond drill holes, collared to test long and short strike length ground EM geophysical conductors, intersected quartz-biotite-garnet gneiss, mineralized hornblende-plagioclase gneiss, quartz-biotite gneiss and pegmatite (A.F. 90736).

MINERALIZATION:

Thin (2 to 6 cm) intervals of "light" to "medium" pyrrhotite and lesser chalcopyrite, hosted by hornblende-plagioclase gneiss, were intersected by DDH 6. This mineralization is associated with quartz veins and quartz-feldspar segregations or stringers, and is interpreted as mobilizate. A 12 cm zone of "light" pyrrhotite and pyrite was intersected by DDH 6 in a pegmatite in hornblende-plagioclase gneiss. DDH 7 intersected 2 cm to 30 cm thick zones of "light" to "medium" pyrrhotite with lesser chalcopyrite hosted by interbedded hornblende-plagioclase gneiss and quartz-biotite gneiss (A.F. 90736).

GEOCHEMICAL DATA:

None.

CLASSIFICATION:

Chemical sediment type deposit; sulphide facies iron formation. This type of mineralization is represented by DDH 7. Disseminated mineralization - not classified occurs in DDH 6, and appears to be related to granitization.

REFERENCES:

Assessment Files 90002, 90736 and 91624
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lake area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

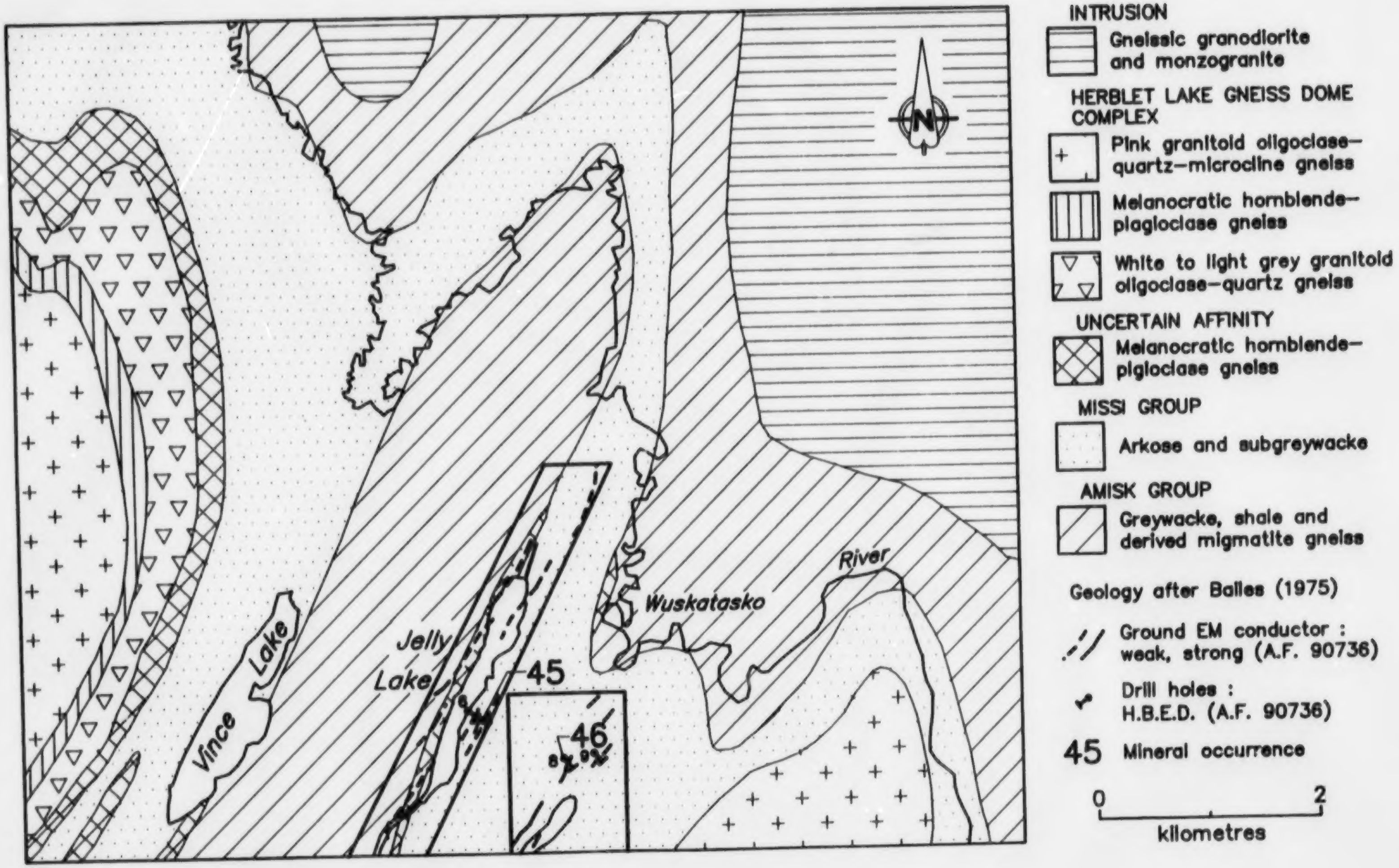

INTRUSION
Gneissic granodiorite and monzogranite
HERBLET LAKE GNEISS DOME COMPLEX
Pink granitoid oligoclase-quartz-microcline gneiss
Melanocratic hornblende-plagioclase gneiss
White to light grey granitoid oligoclase-quartz gneiss
UNCERTAIN AFFINITY
Melanocratic hornblende-plgioclase gneiss
MISSI GROUP
Arkose and subgreywacke
AMISK GROUP
Greywacke, shale and derived migmatite gneiss
Geology after Bailes (1975)
Ground EM conductor : weak, strong (A.F. 90736)
Drill holes : H.B.E.D. (A.F. 90736)
45 Mineral occurrence
0
2
kilometres
N
Vince Lake
Jelly Lake
Wuskatasko River
45
46

Figure 45-1: Geological setting, ground EM geophysical conductors, and diamond drill hole locations, occurrences 45 and 46.

LOCATION: 46

NAME: (A.F. - Mineralization intersected by diamond drilling)

UTM: 6095555N/461458E

ACCESS: Bush plane to Jelly Lake and traverse.

AREA: East of Jelly Lake (Fig. 45-1)

AIRPHOTO: MB87012-234, -235

EXPLORATION SUMMARY:

The area was included in an airborne EM survey conducted by Canadian Nickel Co. Ltd. in 1957 (A.F. 91624). As a result of this survey, multiple long and short strike length conductors were delineated throughout the survey area. In 1958 Newmont Exploration Ltd. undertook airborne EM and magnetometer surveys in the general occurrence area (A.F. 90002). Another airborne EM and radiometric survey by HBMS covered the area in 1965 (A.F. 91650). In 1957 HBED undertook 1901 km of ground EM surveys and drilled six holes (570 m) on the Tie claims (A.F. 90736). HBED staked claim CB 9250 in 1978. Of the six holes drilled in the general area of the occurrence only DDH 8 and 9 (Fig. 46-1) are relevant to this location.

GEOLOGICAL SETTING:

The general area of the occurrence is characterized by long and short strike length ground EM geophysical conductors within Missi Group arkose and subgreywacke (Fig. 45-1; A.F. 90736; Bailes, 1975). Diamond drill holes, collared to test these conductors, intersected mineralized quartz-biotite ± garnet gneiss, pegmatite, interbedded hornblende-plagioclase gneiss, mineralized biotite-sericite schist, and chemical sedimentary rocks (A.F. 90736).

MINERALIZATION:

DDH 8 intersected 3.8 m of "heavy" graphite with "light medium" pyrrhotite. In the drill core, this mineralization is overlain by quartz-biotite gneiss and underlain by interbedded hornblende-plagioclase gneiss and quartz-biotite gneiss. Disseminated pyrrhotite occurs in 0.5 to 2.6 m intervals within the quartz-biotite gneiss. DDH 9 intersected disseminated pyrrhotite over 5 to 15 cm intervals within quartz-biotite-garnet gneiss. Additionally, a 23 m intersection of biotite-sericite schist contains numerous intervals of graphite and disseminated pyrrhotite. These intervals vary from 5 cm to 2.8 m disseminated pyrrhotite and from 2.5 cm to 5.9 m near solid to disseminated graphite. The biotite-sericite schist is underlain in the drill core by quartz-biotite schist containing 7 cm to 60 cm thick intervals of disseminated pyrrhotite.

GEOCHEMICAL DATA:

None.

CLASSIFICATION:

Chemical sediment type deposit; sulphide facies iron formation.

REFERENCES:

Assessment Files 90002, 90736, 91624 and 91650
Manitoba Energy and Mines, Minerals Division.

Bailes, A.H.
1975: Geology of the Guay-Wimapedi Lake area; Manitoba Mines, Resources and Environmental Management, Mineral Resources Division Publication 75-2, 104 p.

APPENDIX I: Multi-element Geochemical Rock Analyses

Rock samples were routinely collected as (1) bulked or composite continuous chip samples over 1 or 2 m intervals from trenches and/or outcrop, (2) single or multiple 1-2 kg samples from representative mineralized zones in trenches and outcrop, or (3) chips or sections of split drill core from specific intervals in a drillhole. These samples were routinely analyzed by Acme Analytical Laboratories Ltd. (Vancouver) by digesting 0.500 g of rock powder with 3 ml of 3:1:2 HCl-HNO_3-H_2O at 95°C for one hour and then diluted to 10 ml with deionised water. This solution is then analyzed by inductively coupled argon plasma-atomic absorption spectrophotometry (ICP-AAS) for 30 elements. The lower limit of detection (LLD) for Au using a 0.500 g sample aliquot is 3 ppm, which was considered too high for the purposes of this study. Accordingly, a LLD of 1 ppb was attained for Au with a preconcentration of a 10 g sample and AAS finish. Assay data for Cu, Pb, Zn, Au and Ag obtained from the analytical laboratories of the Geological Services Branch is presented on figures or in tables accompanying individual mineral occurrence descriptions. All other analytical specifications are given below.

Specifications:

1. Au1: Au by ICP on 10 g sample.
2. Au2: Au, Pt and Pd by INAA on 50 g sample.
3. All other analyses by ICP on 0.500 g sample after a 3-1-2 HCl-HNO_3-H_2O dissolution. This digestion is partial for Mn, Fe, Ca, P, La, Cr, Mg, Ba, Ti, B, W, Na, K, Al.
4. Hg by flameless AAS.

Mineral	UTM Coordinates		Sample	Fe	Mn	Ba	B	Cr	Mg	W	U	Th	P	La	V
Occurrence	Northing	Easting	Numbers	(%)	(ppm)	(ppm)	(ppm)	(ppm)	(%)	(ppm)	(ppm)	(ppm)	(%)	(ppm)	(ppm)
63O/4-1	6101678	448421	04627	3.86	191	82	7	19	0.46	2	5	1	0.003	4	15
			04628	4.52	214	45	10	19	0.87	2	5	2	0.034	7	36
			04629	1.74	57	9	4	18	0.04	1	5	1	0.005	2	4
			04630	3.89	127	112	5	25	1.02	2	5	1	0.007	2	16
			04631	4.16	59	10	4	21	0.44	1	5	2	0.029	18	31
			04632	4.62	156	76	4	10	1.22	1	5	2	0.004	3	7
			04633	2.67	52	44	16	11	0.23	2	5	1	0.006	17	3
			04639	1.67	45	15	3	12	0.17	1	5	1	0.005	8	2
63O/4-2	6102426	446293	04842	2.60	110	15	2	17	0.32	1	5	2	0.094	5	64
63O/4-3	6103195	446591	04636	5.47	197	53	6	22	0.77	723	5	2	0.124	10	13
			04641	5.12	136	27	12	14	0.23	534	5	1	0.117	8	11
63O/4-4	6103381	447761	04640	3.01	96	246	16	15	1.38	1	5	1	0.207	6	20
63O/4-5	6103295	448547	04845	2.44	142	111	3	19	0.49	1	7	2	0.010	5	11
63O/4-8	6102612	449978	04843	1.21	62	4	4	16	0.06	1	5	2	0.007	2	2
			04844	4.22	158	67	4	12	0.61	1	5	3	0.055	4	28
63O/4-9	6101303	449871	04638	3.57	272	56	9	21	0.37	1	5	4	0.018	17	9
63O/4-10	6103143	446309	04634	2.70	110	5	6	29	0.07	15	5	2	0.010	2	4
			04635	1.83	72	4	3	19	0.04	1	5	1	0.010	2	3
63O/4-12	6101377	444467	04849	1.91	138	119	5	12	0.48	1	5	3	0.020	11	7
63O/4-13	6098470	452400	04668	5.33	413	24	16	13	0.75	1	5	1	0.098	2	58
63O/4-14	6099614	454271	04669	4.33	229	120	7	19	0.95	1	5	1	0.007	2	3
			04670	3.81	270	43	2	16	0.48	1	5	1	0.056	2	1
			04671	3.10	152	117	5	12	0.38	1	5	1	0.013	4	3
63O/4-15	6099436	454230	04672	3.78	292	22	13	16	0.18	5	5	1	0.011	5	3
			04673	3.12	265	49	18	20	0.38	1	5	1	0.010	6	2
63O/4-16	6100031	455349	04674	3.57	95	21	19	20	0.29	1	5	1	0.009	2	7
			04675	3.02	191	34	22	21	0.39	1	5	1	0.016	5	11
63O/4-17	6099225	453413	04801	2.16	68	1	6	26	0.01	1	5	1	0.005	2	3
			04802	3.05	172	24	7	40	0.15	1	5	1	0.092	3	9

Mo (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Au (ppb)	Ag (ppm)	As (ppm)	Sb (ppm)	Bi (ppm)	Cd (ppm)	Ni (ppm)	Co (ppm)	Ti (%)	Na (%)	K (%)	Ca (%)	Sr (ppm)	Al (%)
5	872	2	11	2	0.1	5	2	4	1	17	8	0.05	0.03	0.30	0.01	2	0.49
9	426	7	25	9	0.2	3	2	2	1	18	12	0.08	0.04	0.54	0.10	3	0.77
5	190	2	2	2	0.1	3	2	2	1	19	3	0.01	0.01	0.02	0.01	1	0.07
4	541	9	21	4	0.1	4	2	2	1	16	20	0.09	0.04	0.67	0.01	2	1.26
2	526	2	8	6	0.1	2	2	3	1	18	20	0.01	0.03	0.05	0.20	2	0.61
3	110	7	23	3	0.1	9	2	2	1	14	7	0.10	0.05	0.78	0.01	1	1.27
5	302	2	7	8	0.1	2	2	2	1	11	19	0.02	0.01	0.21	0.02	2	0.34
3	38	4	5	6	0.1	2	2	2	1	13	2	0.02	0.02	0.09	0.01	1	0.22
2	53	5	25	5	0.1	2	2	2	1	16	6	0.08	0.11	0.17	0.94	14	1.22
1	3041	12	20	31	0.2	2	10	2	1	1	73	0.18	0.07	1.20	0.31	3	1.47
6	5750	8	37	54	0.3	2	5	2	1	1	94	0.04	0.08	0.10	0.32	3	0.53
4	99	4	13	1	0.1	2	2	2	1	15	5	0.11	0.06	0.59	0.51	4	1.50
6	57	5	23	1	0.1	4	2	2	1	19	3	0.05	0.02	0.41	0.03	2	0.41
4	57	5	6	1	0.1	6	2	2	1	18	2	0.01	0.01	0.02	0.03	1	0.09
2	58	3	14	3	0.1	4	3	2	1	9	3	0.08	0.03	0.58	0.13	5	0.60
4	44	4	45	26	0.1	2	2	2	1	16	5	0.07	0.02	0.39	0.07	2	0.85
8	167	5	8	1	0.1	2	2	2	1	29	4	0.01	0.01	0.02	0.04	1	0.11
5	110	2	2	44	0.1	2	2	2	1	18	3	0.02	0.01	0.01	0.03	1	0.07
5	54	4	20	2	0.1	3	2	2	1	13	5	0.08	0.03	0.34	0.39	4	0.65
3	218	7	40	5	0.3	5	2	2	1	21	26	0.09	0.14	0.14	1.30	15	1.49
5	98	2	110	2	0.1	3	2	2	1	20	6	0.11	0.06	0.61	0.07	2	1.55
4	87	4	20	41	0.1	2	2	2	1	15	4	0.04	0.02	0.17	0.20	2	0.82
3	67	4	31	1	0.1	2	2	2	1	13	4	0.07	0.01	0.44	0.10	2	0.81
6	170	6	63	4	0.1	2	2	2	1	15	3	0.05	0.04	0.09	1.02	6	1.27
5	74	10	84	4	0.1	4	2	2	1	22	3	0.07	0.07	0.20	1.09	10	1.35
9	396	9	141	5	0.1	2	2	2	1	29	6	0.02	0.02	0.11	0.06	2	0.53
7	108	5	103	2	0.1	3	2	2	1	22	6	0.04	0.02	0.17	0.29	5	0.78
7	71	4	4	4	0.1	2	2	2	1	27	2	0.01	0.01	0.01	0.01	1	0.03
6	82	8	36	1	0.2	2	2	2	1	41	4	0.11	0.06	0.03	1.32	30	0.74

Mineral Occurrence	UTM Coordinates Northing	Easting	Sample Numbers	Fe (%)	Mn (ppm)	Ba (ppm)	B (ppm)	Cr (ppm)	Mg (%)	W (ppm)	U (ppm)	Th (ppm)	P (%)	La (ppm)	V (ppm)
63O/4-18	6099375	453675	04803	3.35	215	141	8	19	1.31	1	5	1	0.010	5	9
			04839	3.91	182	96	33	18	0.92	2	5	2	0.007	2	3
			04840	2.39	137	22	28	17	0.24	1	5	2	0.006	7	3
63O/4-19	6099333	453545	04804	4.13	99	233	9	13	0.76	5	5	1	0.012	5	26
63O/4-20	6099280	453480	04805	3.95	37	32	20	12	0.23	1	5	1	0.004	16	1
			04806	3.58	37	68	22	12	0.24	1	5	1	0.004	2	1
			04807	6.70	57	40	22	19	0.23	1	5	1	0.060	18	2
63O/4-21	6099882	453058	04808	4.89	327	47	12	18	1.33	1	5	1	0.018	7	18
63O/4-22	6099053	454006	04838	3.30	103	14	50	28	0.96	1	5	3	0.028	3	49
63O/4-23	6104134	437643	04850	2.14	92	1	2	30	0.04	1	5	1	0.010	2	4
63O/4-24	6103897	441105	04652	2.12	63	1	2	13	0.11	1	5	1	0.251	15	3
63O/4-25	6103865	437872	04653	4.31	415	48	19	13	0.75	1	5	1	0.035	5	59
63O/4-26	6102266	437742	01393	3.35	174	15	5	7	0.77	1	5	1	0.042	2	64
			01394	4.99	116	9	5	10	0.31	1	5	2	0.022	2	64
			04646	3.57	139	15	5	18	0.27	1	5	1	0.034	2	43
			04647	4.01	234	13	14	11	0.63	1	5	1	0.012	2	105
			04648	4.08	189	11	10	17	0.54	2	5	1	0.022	2	111
			04649	4.16	220	74	15	21	1.26	1	5	1	0.004	2	84
			04650	3.88	271	17	10	31	0.39	3	5	1	0.031	2	45
63O/4-27	6103753	437889	04651	2.27	163	25	3	11	0.24	1	5	1	0.035	2	13
			04654	2.38	121	25	9	16	0.18	2	5	1	0.009	7	6
63O/4-28	6103197	437800	01390	7.98	155	27	4	15	0.30	1	5	1	0.025	2	43
63O/4-29	6102939	437704	01391	3.74	257	7	3	13	0.45	1	7	2	0.022	2	32
63/O4-30	6096268	448610	04655	1.75	66	1	2	22	0.01	2	5	1	0.004	2	2
			04656	3.19	378	82	29	15	0.35	1	5	3	0.046	19	8
			04657	1.98	76	1	6	24	0.01	3	5	1	0.004	2	3
			04658	2.35	86	1	4	31	0.01	2	5	1	0.004	2	4
			04659	3.36	175	14	18	40	0.13	2	5	1	0.016	2	10
			04660	2.61	364	23	23	11	0.35	1	5	1	0.019	9	3
			04661	1.86	73	5	7	22	0.06	1	5	1	0.004	2	3
			04662	2.24	224	13	8	22	0.14	1	5	1	0.013	6	4

Mo (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Au (ppb)	Ag (ppm)	As (ppm)	Sb (ppm)	Bi (ppm)	Cd (ppm)	Ni (ppm)	Co (ppm)	Ti (%)	Na (%)	K (%)	Ca (%)	Sr (ppm)	Al (%)
5	156	13	49	3	0.2	2	2	2	1	18	9	0.11	0.02	0.84	0.05	2	1.46
5	167	7	39	1	0.4	2	2	3	1	18	6	0.10	0.02	0.37	0.05	2	1.14
4	64	2	11	2	0.1	2	2	2	1	15	3	0.02	0.02	0.11	0.04	2	0.49
12	973	2	24	19	0.2	4	2	2	1	16	13	0.07	0.03	0.66	0.05	2	1.04
13	86	5	5	6	0.1	2	2	2	1	15	26	0.01	0.01	0.19	0.01	1	0.56
20	51	2	6	10	0.1	2	2	2	1	13	12	0.01	0.01	0.28	0.01	1	0.48
20	61	4	7	4	0.1	2	2	2	1	22	38	0.01	0.01	0.37	0.03	2	0.44
4	317	7	48	6	0.1	3	2	2	1	15	13	0.03	0.02	0.21	0.07	2	1.61
3	316	2	8	3	0.2	2	2	2	1	42	48	0.07	0.05	0.07	0.65	5	0.93
9	83	5	3	2	0.1	3	2	2	1	31	2	0.01	0.01	0.01	0.05	1	0.02
3	41	2	3	2	0.1	2	2	2	1	13	1	0.01	0.03	0.02	1.17	6	0.55
3	107	5	71	4	0.1	2	2	3	1	11	15	0.11	0.07	0.56	0.42	8	1.35
1	233	5	24	1	0.2	3	2	2	1	14	11	0.04	0.16	0.11	2.11	29	2.30
5	549	7	11	2	0.2	8	3	2	1	12	25	0.02	0.20	0.05	1.68	38	2.22
5	513	9	13	2	0.1	3	2	2	1	19	17	0.03	0.16	0.07	1.22	39	2.05
2	118	14	17	1	0.1	4	2	2	1	11	10	0.04	0.31	0.11	3.53	75	5.05
3	45	12	24	1	0.1	5	2	2	1	17	8	0.04	0.17	0.09	1.91	28	2.76
7	220	3	26	1	0.1	4	2	2	1	22	14	0.09	0.15	0.35	1.69	12	3.40
8	171	10	22	1	0.1	3	2	2	1	29	9	0.04	0.10	0.09	0.70	11	1.54
2	58	4	20		0.1	2	2	2	1	11	4	0.04	0.07	0.11	0.64	13	0.85
3	37	2	17	14	0.1	2	2	2	1	11	4	0.01	0.02	0.08	0.06	2	0.24
20	375	14	25	18	0.3	3	3	2	1	23	29	0.03	0.01	0.13	0.05	2	0.54
3	498	6	13	6	0.2	4	2	2	1	19	18	0.02	0.01	0.05	0.24	2	0.88
6	61	2	2	1	0.1	2	2	2	1	20	2	0.01	0.01	0.01	0.01	1	0.01
4	171	5	58	21	0.1	9	2	3	1	15	3	0.05	0.18	0.09	2.83	86	3.42
6	67	5	3	1	0.1	4	2	2	1	24	2	0.01	0.01	0.01	0.03	1	0.01
8	79	2	3	1	0.1	2	2	2	1	29	3	0.01	0.01	0.01	0.01	1	0.01
9	96	7	23	2	0.1	4	2	2	1	35	5	0.01	0.01	0.07	0.05	2	0.37
3	79	6	41	1	0.1	3	2	3	1	10	2	0.03	0.03	0.10	1.31	23	1.22
5	65	3	7	3	0.1	2	2	2	1	21	2	0.01	0.01	0.02	0.03	1	0.10
5	73	2	23	1	0.1	4	2	2	1	19	2	0.02	0.05	0.04	0.63	22	0.94

Mineral	UTM Coordinates		Sample	Fe	Mn	Ba	B	Cr	Mg	W	U	Th	P	La	V
Occurrence	Northing	Easting	Numbers	(%)	(ppm)	(ppm)	(ppm)	(ppm)	(%)	(ppm)	(ppm)	(ppm)	(%)	(ppm)	(ppm)
63/O4-31	6095405	447673	841147	2.62	289	10	2	12	0.16	3	5	1	0.035	4	13
			841148	5.24	197	7	2	8	0.27	285	5	1	0.030	2	68
63/O4-32 T2	6097134	449977	03202	4.45	537	81	18	20	0.55	168	6	1	0.049	7	44
			03203	5.09	444	22	17	18	0.38	141	6	1	0.076	8	26
			03205	5.98	483	93	17	17	1.10	87	5	1	0.047	7	112
			03206	4.37	441	194	11	17	0.94	156	5	1	0.054	6	71
			03207	3.23	427	33	18	15	0.65	131	5	1	0.044	5	76
			03208	5.23	353	113	12	18	0.95	84	5	1	0.048	7	63
			03209	2.98	338	103	10	18	0.65	177	5	1	0.051	5	66
			03210	4.11	397	307	12	17	0.78	147	5	1	0.056	7	58
			03211	2.21	247	54	10	4	0.54	160	5	1	0.045	5	67
63/O4-33	6103013	447046	04846	1.46	60	1	2	20	0.01	1	5	1	0.005	2	2
			04847	1.73	84	23	3	16	0.12	1	5	1	0.010	3	4
63O/4-34	6097263	439958	04667	2.69	125	36	9	22	0.93	1	5	1	0.024	2	40
63O/4-35	6097410	440089	04666	1.96	99	8	16	22	0.09	1	5	2	0.066	3	3

Mo (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Au (ppb)	Ag (ppm)	As (ppm)	Sb (ppm)	Bi (ppm)	Cd (ppm)	Ni (ppm)	Co (ppm)	Ti (%)	Na (%)	K (%)	Ca (%)	Sr (ppm)	Al (%)
27	79	4	20	6	0.1	3	2	2	1	13	6	0.03	0.05	0.03	1.74	10	0.26
3	218	8	17	1430	0.8	6	2	2	1	13	28	0.08	0.07	0.07	0.60	8	0.40
1	212	16	64	17	0.4	16	2	2	0.2	3	36	0.12	0.38	0.34	4.83	92	4.70
1	371	10	34	5	0.7	17	3	2	0.3	3	36	0.09	0.29	0.09	6.31	93	4.86
1	203	4	40	1	0.1	2	4	2	0.2	4	31	0.18	0.21	0.92	4.44	36	4.90
1	105	2	116	1	0.1	2	2	2	0.2	4	34	0.23	0.15	0.68	1.04	11	2.04
1	117	2	58	1	0.2	2	2	2	0.2	3	29	0.07	0.29	0.13	2.00	48	2.81
1	264	10	163	1	0.6	6	6	2	0.2	4	29	0.23	0.31	1.21	2.12	29	3.99
1	132	2	64	2	0.1	4	2	2	0.2	4	33	0.13	0.15	0.33	0.82	15	1.38
1	154	11	114	1	0.3	3	2	2	0.2	5	32	0.22	0.33	0.74	2.20	34	3.44
1	105	2	43	2	0.3	4	2	2	0.2	4	33	0.11	0.17	0.24	0.76	20	1.2
6	55	3	3	1	0.2	4	2	2	1	22	1	0.01	0.01	0.01	0.01	1	0.01
2	28	6	15	12	0.1	7	2	2	1	12	2	0.02	0.01	0.13	0.02	1	0.26
6	133	2	13	4	0.1	2	2	2	1	25	6	0.03	0.02	0.14	0.06	2	1.47
5	78	2	13	1	0.1	2	2	2	1	24	2	0.01	0.01	0.05	0.19	2	0.21

MAPS
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